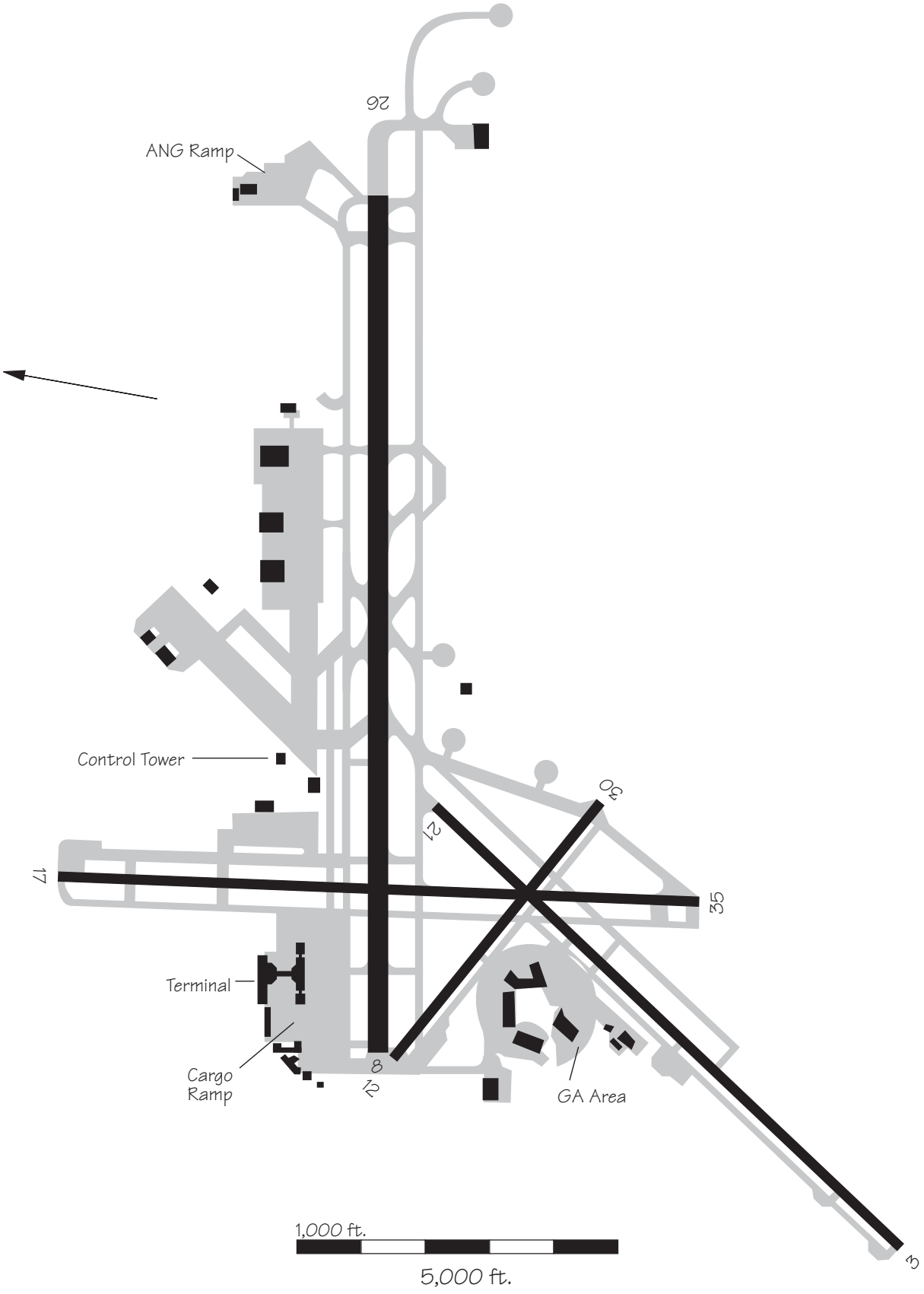
APPENDIX B: TOP 100 AIRPORTS

This appendix contains current airport diagrams for the top 100 airports.[1] For those airports that are considering or have plans for the construction of new runways or extensions to existing runways, the diagrams show the proposed runway and runway extension projects indicated in blue. These diagrams are for illustration only, and should not be used in any way for airport planning purposes. Accompanying the diagrams is a brief narrative of construction projects being planned or considered.

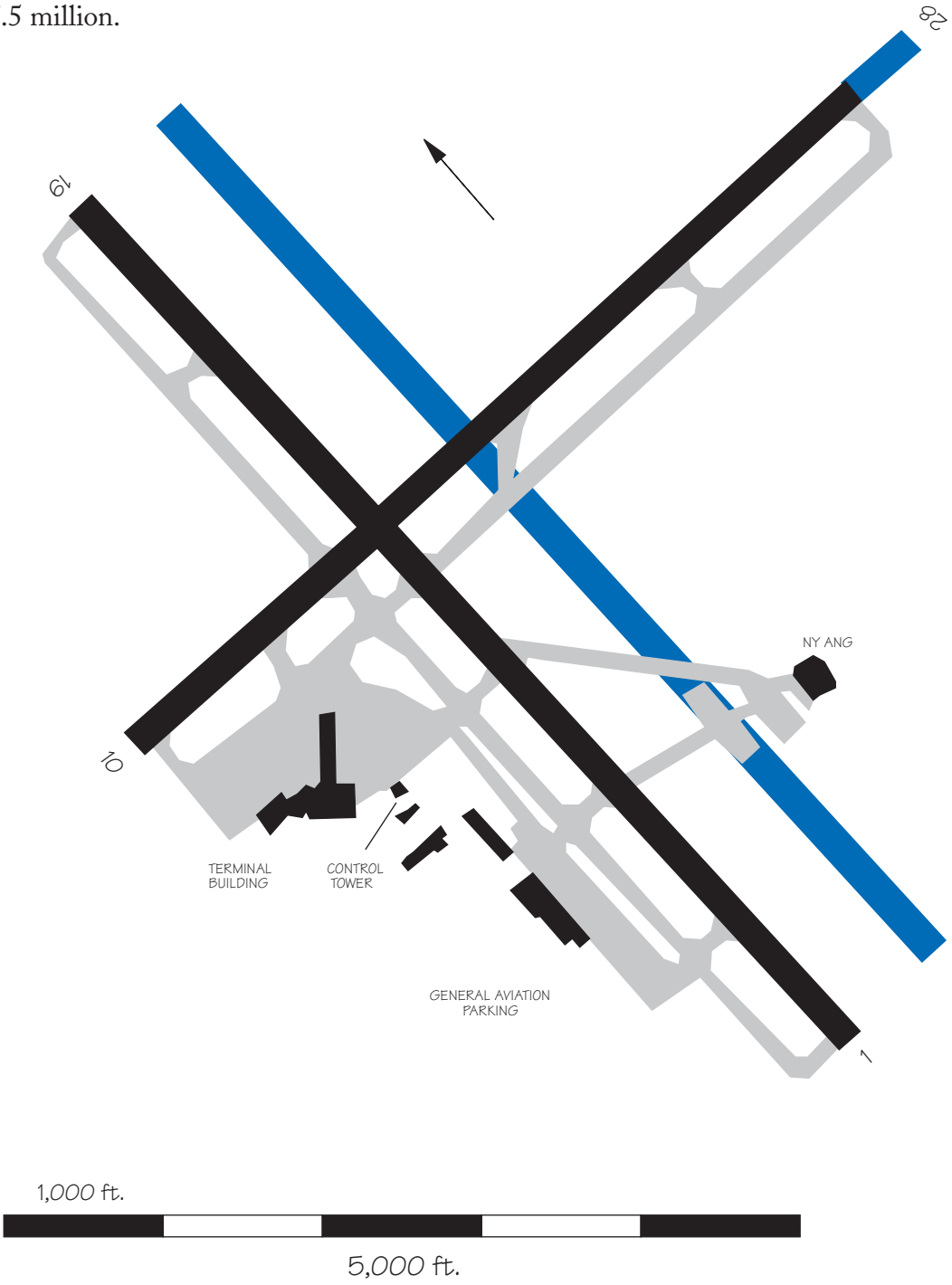
1. Based on 1996 passenger enplanements (see Appendix A, Table A-1).

ABQ — Albuquerque International Airport

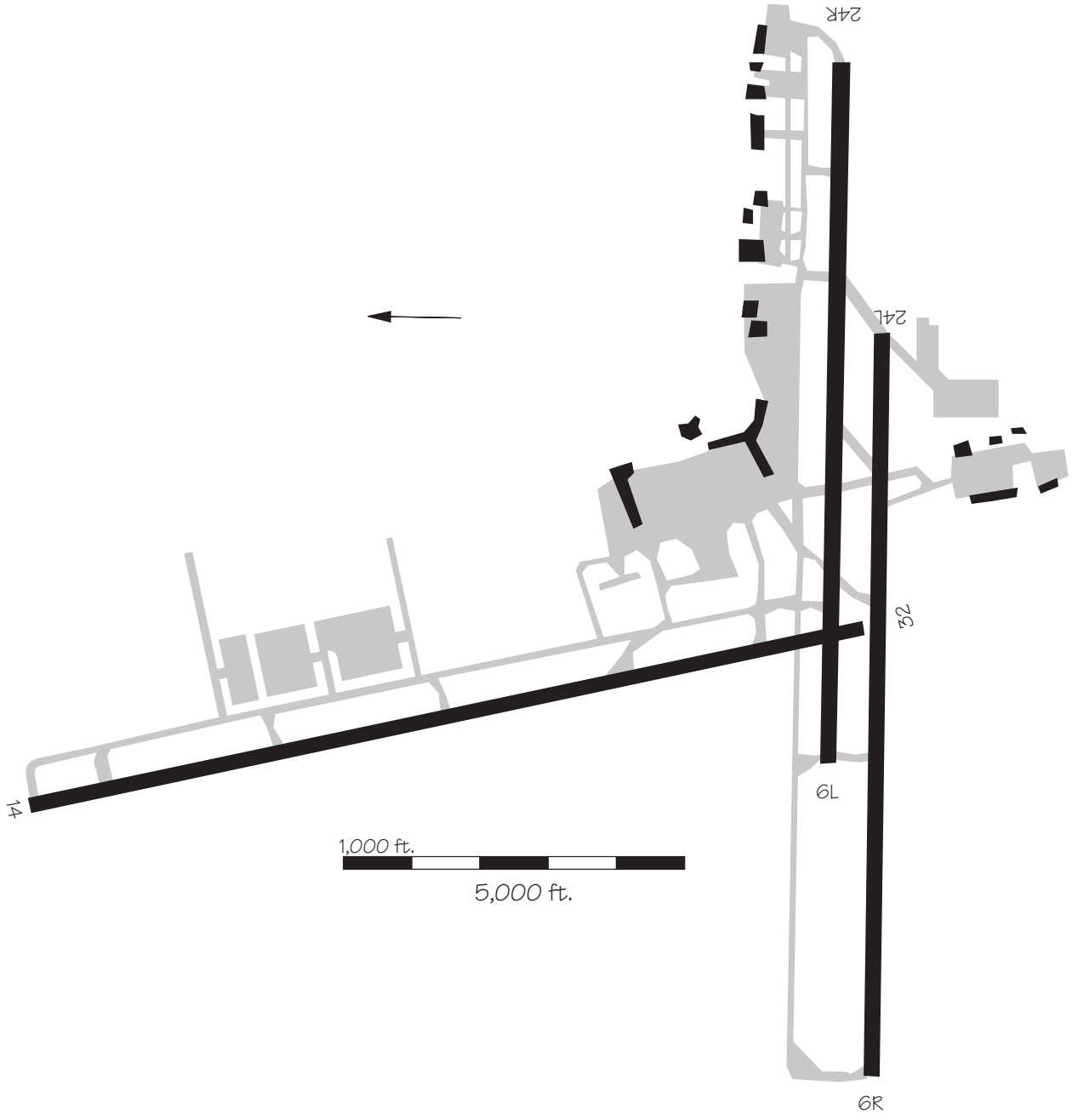


ALB — Albany County Airport

Construction of an extension to Runway 10/28 is planned. The estimated cost of construction is $5.8 million. A new parallel Runway 1R/19L is also planned. The estimated cost is $7.5 million.

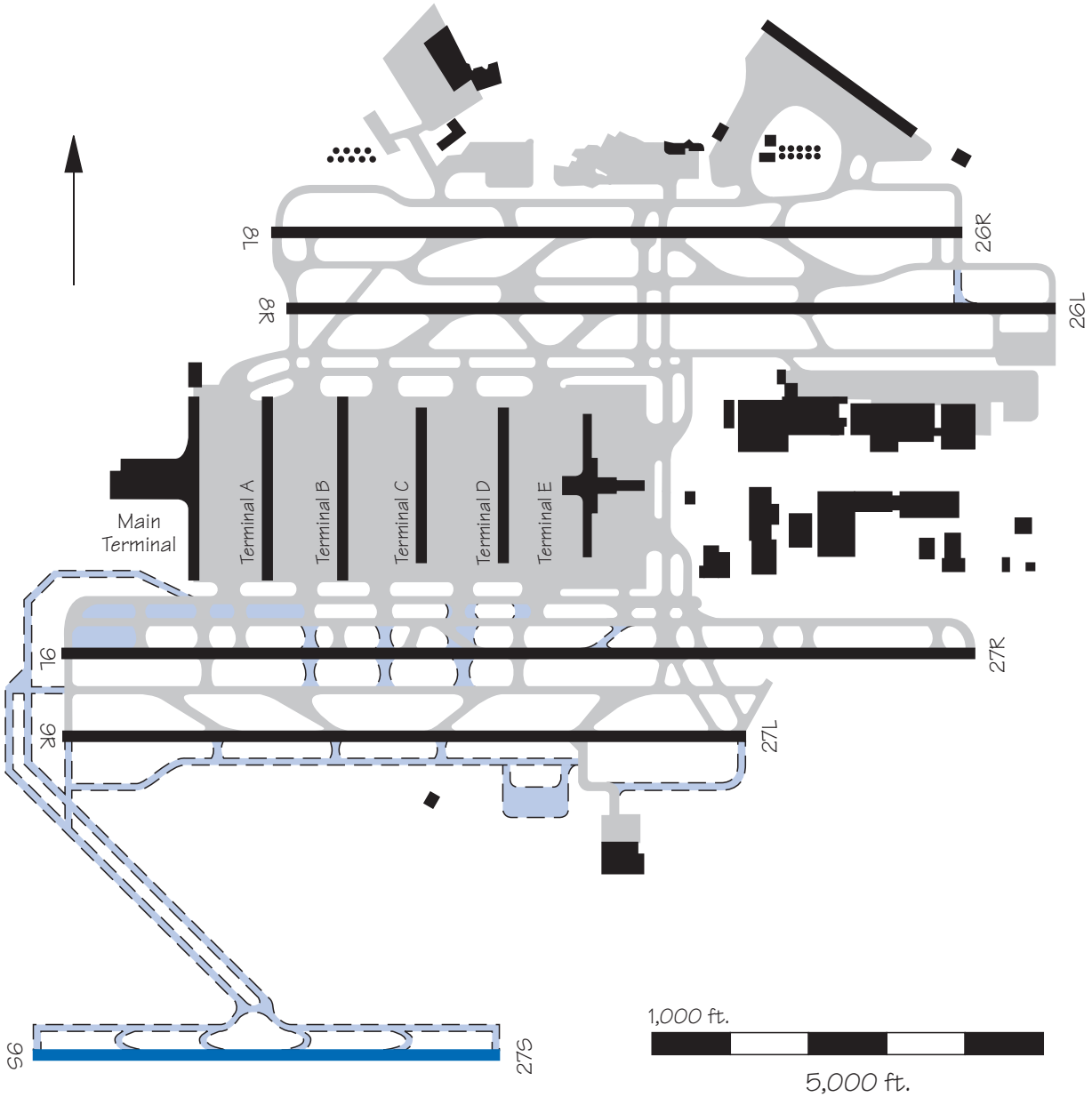


ANC — Anchorage International Airport

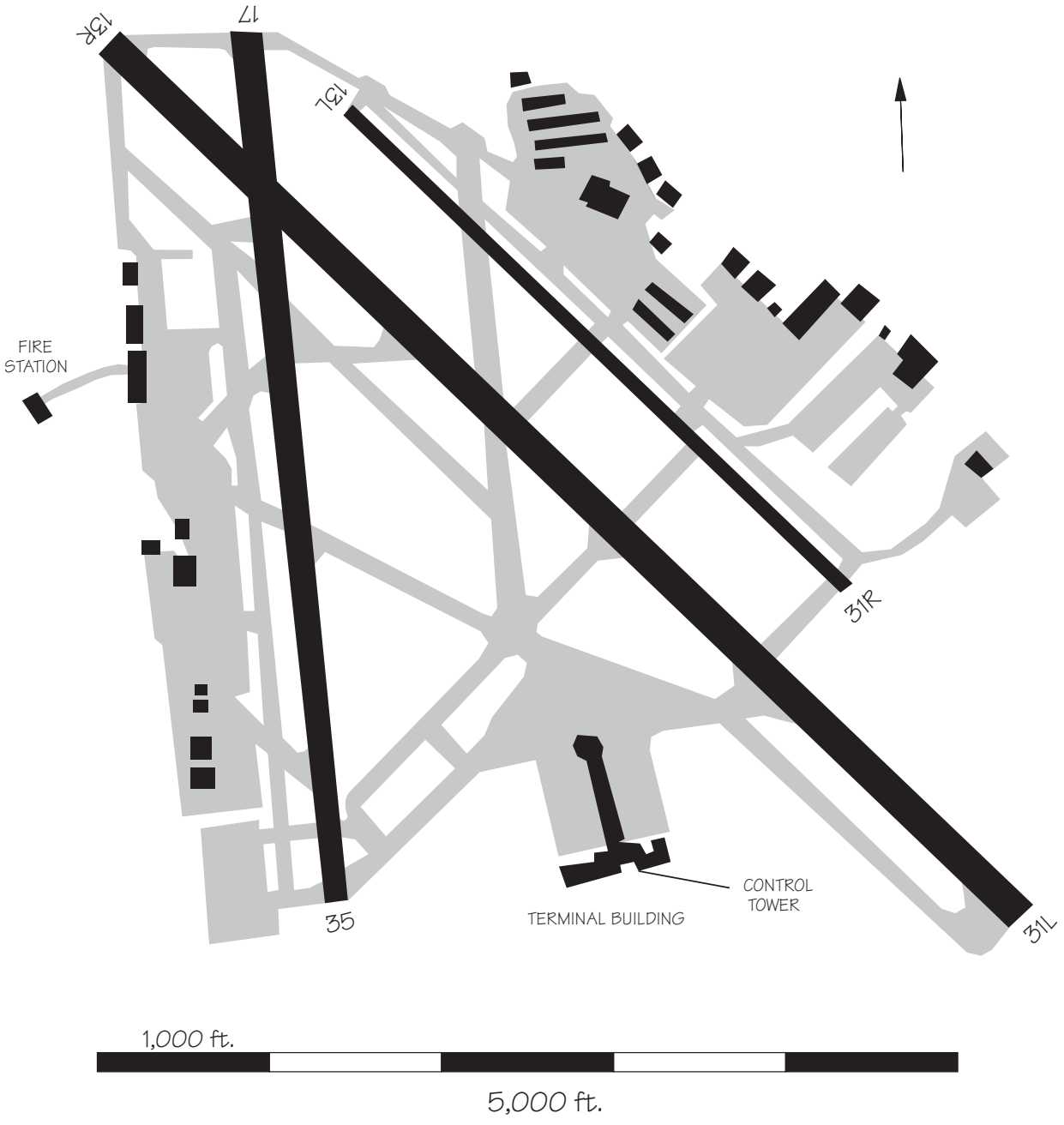


ATL — Hartsfield Atlanta International Airport

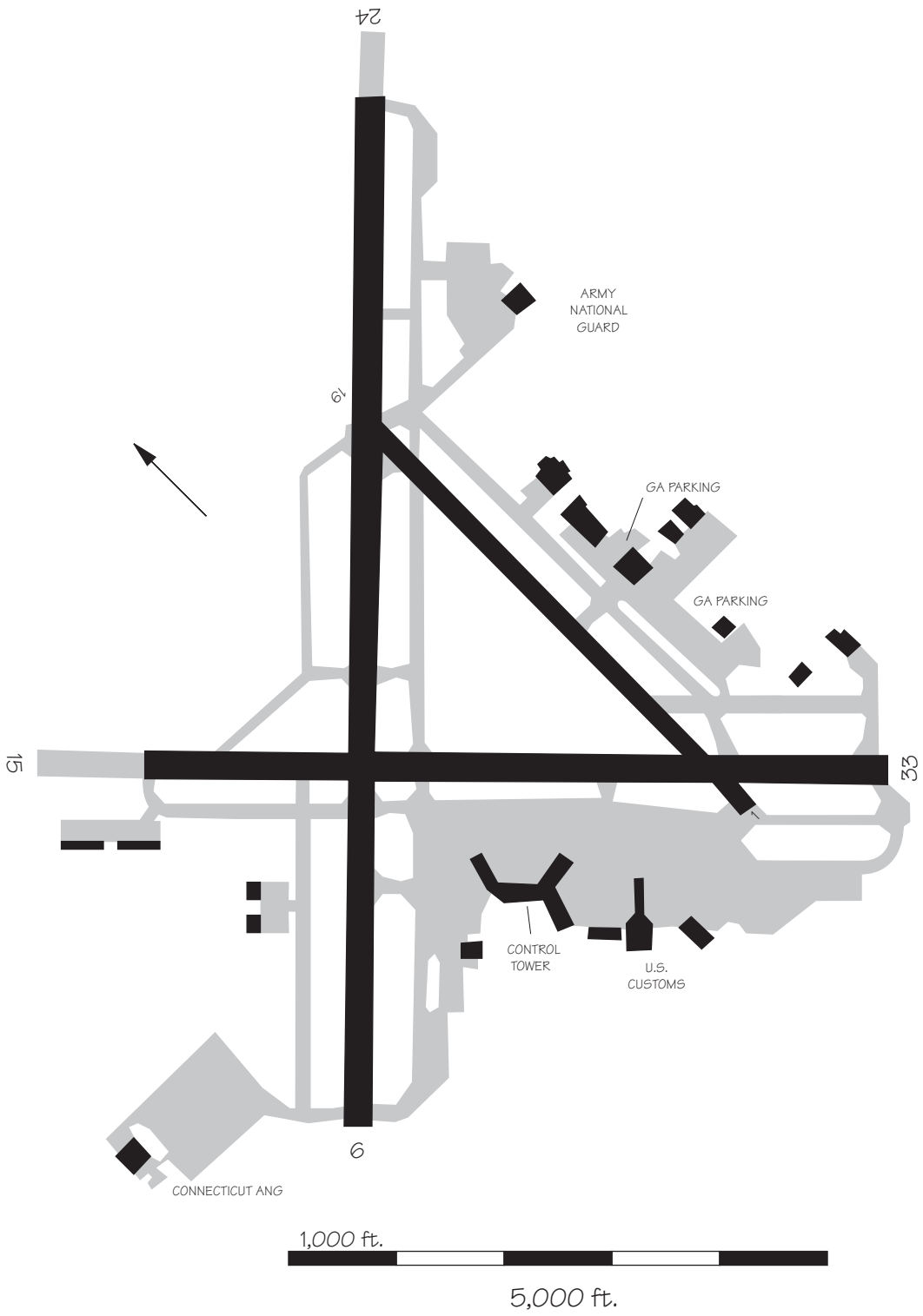
A fifth parallel commuter runway, 6,000 feet long and approximately 4,200 feet south of Runway 9R/27L, is under design. Land acquisition is ongoing. The runway will permit triple independent IFR approaches using the PRM. The total estimated cost is $440 million. Construction is expected to begin in early 1998. The estimated operational date is early 2002.



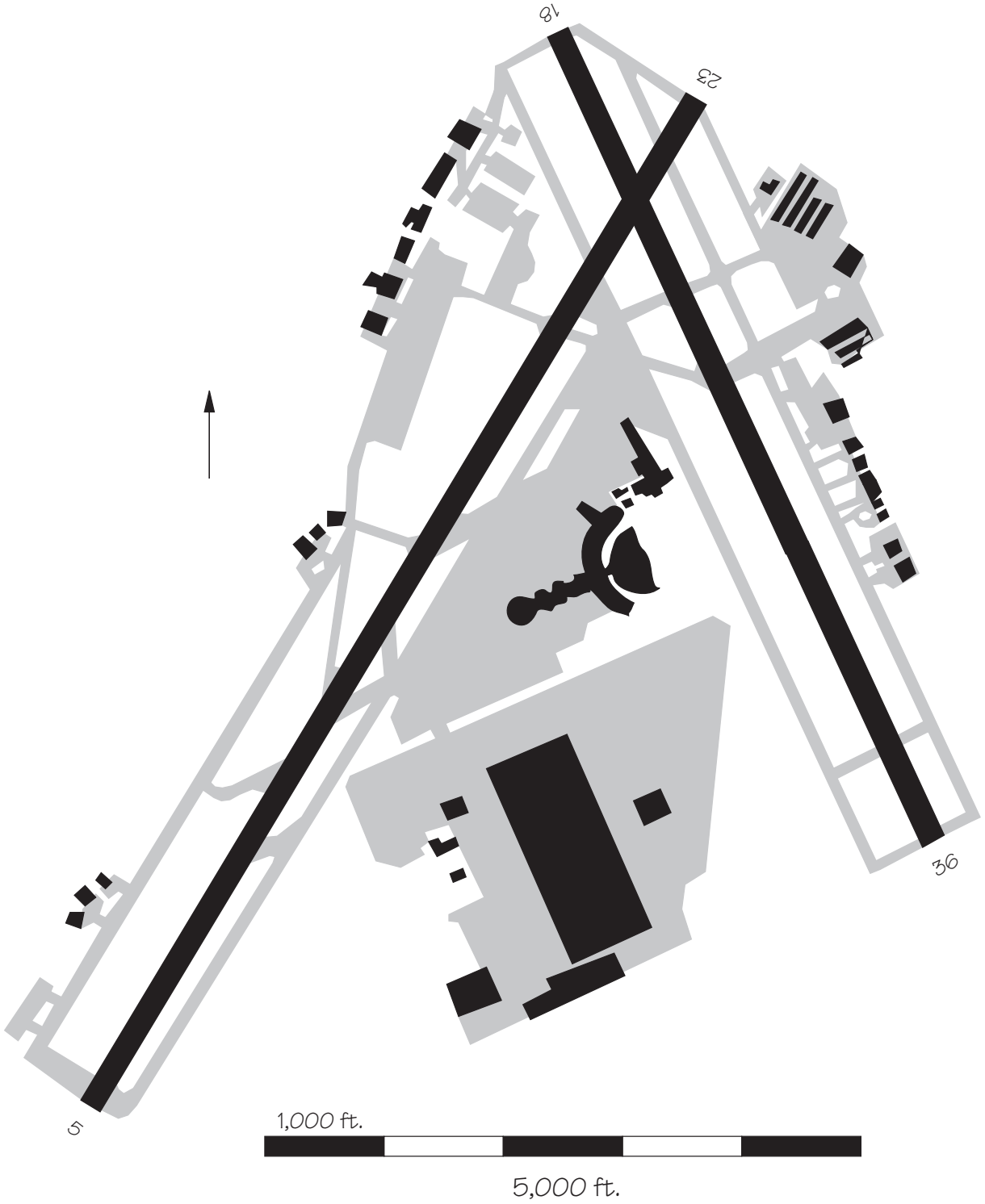
AUS — Austin Robert Mueller Airport



BDL — Bradley International Airport

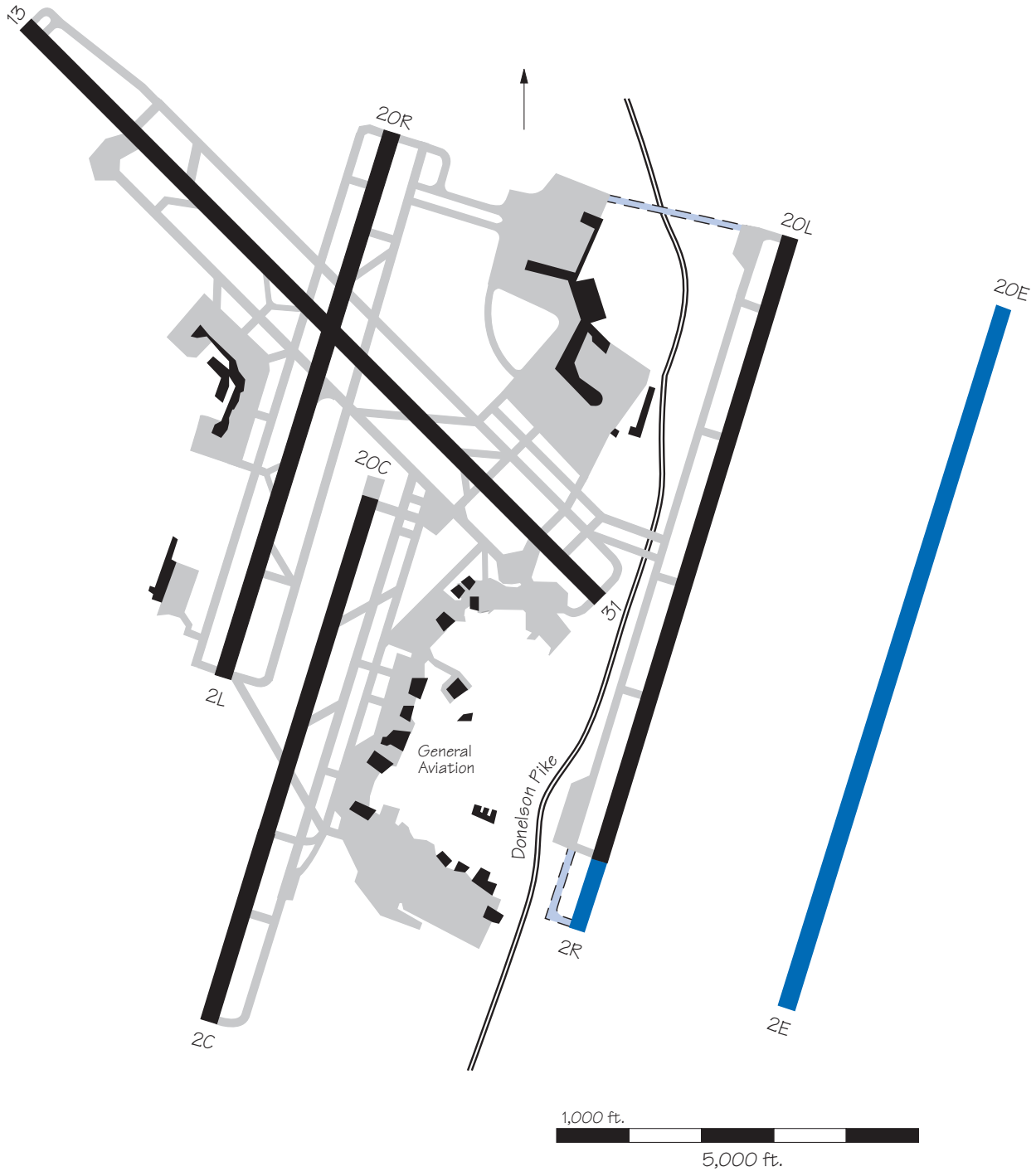


BHM — Birmingham Airport

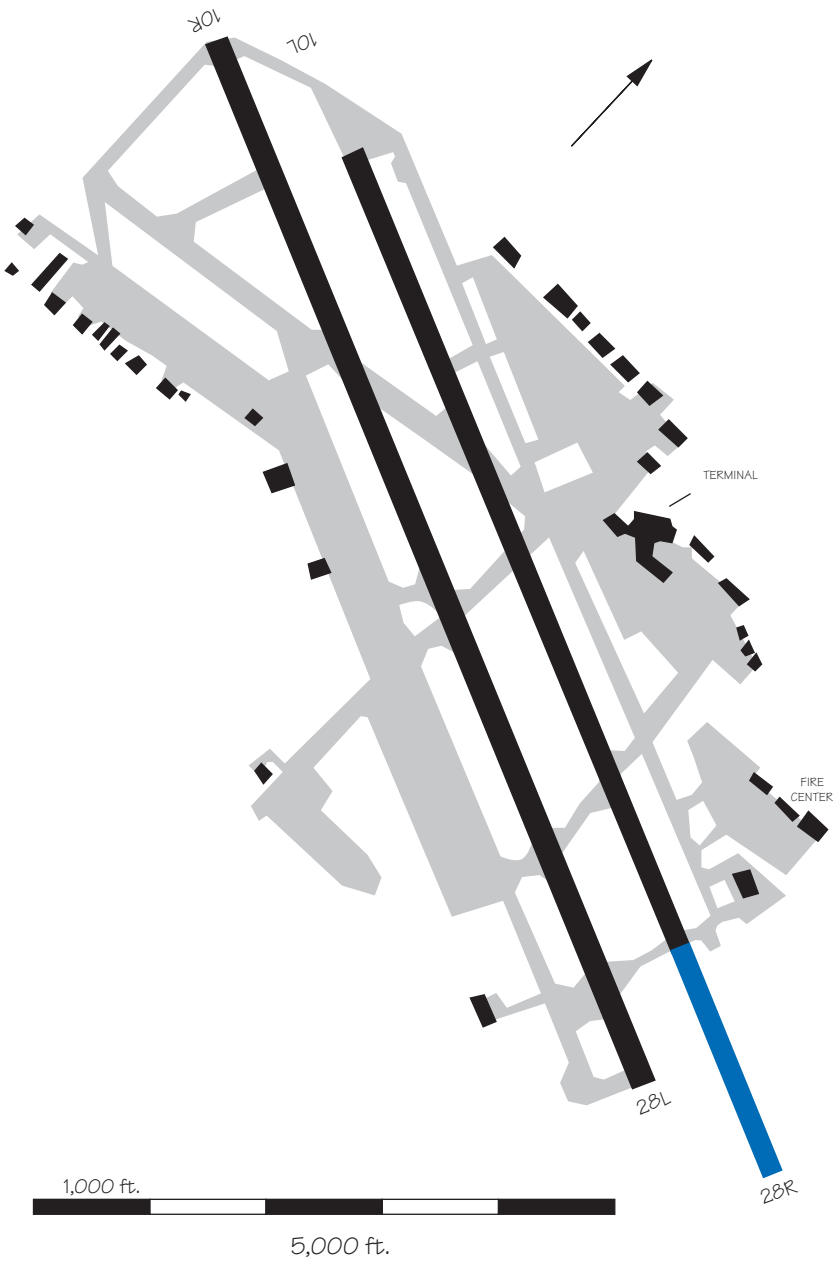


BNA — Nashville International Airport

A new Runway 2E/20E is planned for the future between 1,500 and 3,500 feet from Runway 2R/20L. In addition, an extension to Runway 2R/20L is planned.

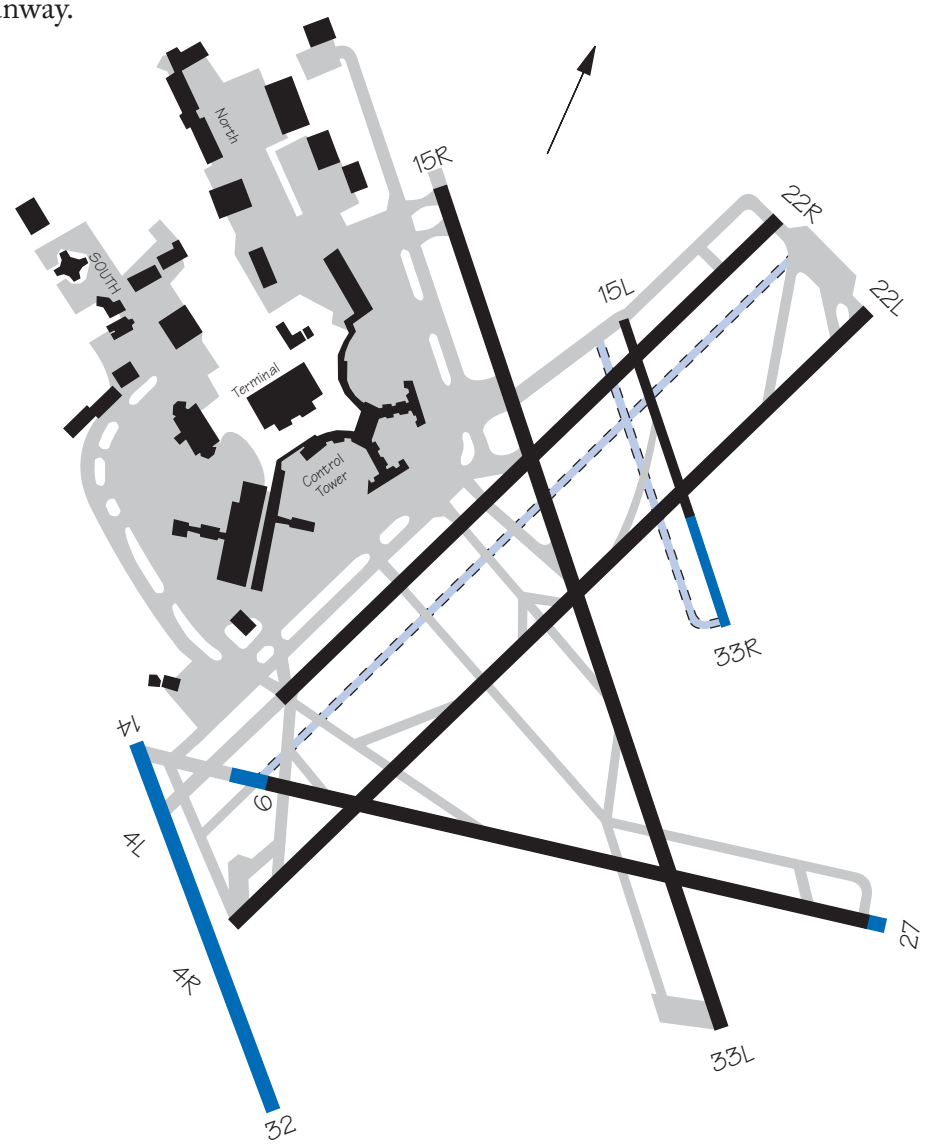


BOI — Boise Air Terminal



BOS — Boston Logan International Airport

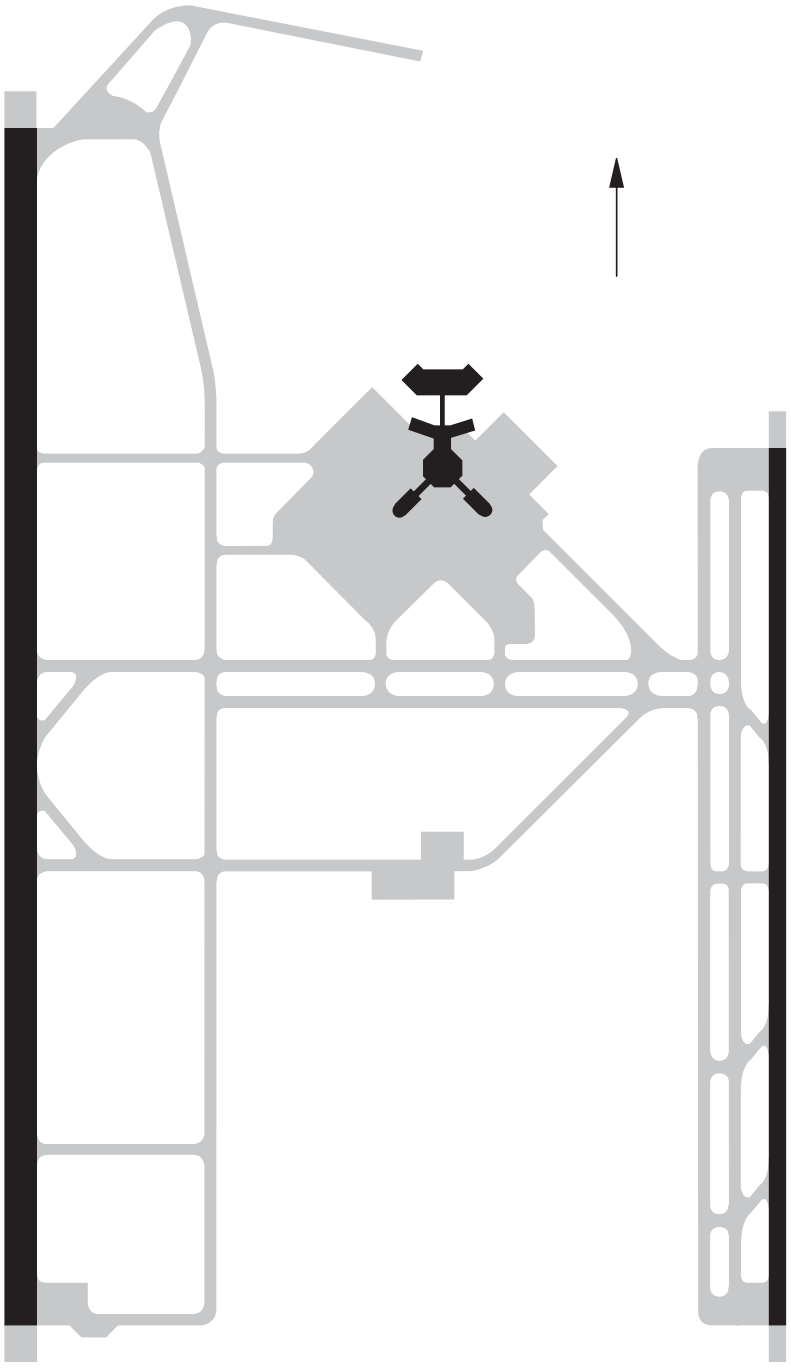
A new uni-directional commuter runway (Runway 14/32) 4,300 feet from Runway 15R/33L, an extension of Runway 15L/33R to 3,500 feet, and a 400-foot extension of Runway 9 are being studied. An Environmental Impact Study is currently in progress for the new runway.



5,000 ft.

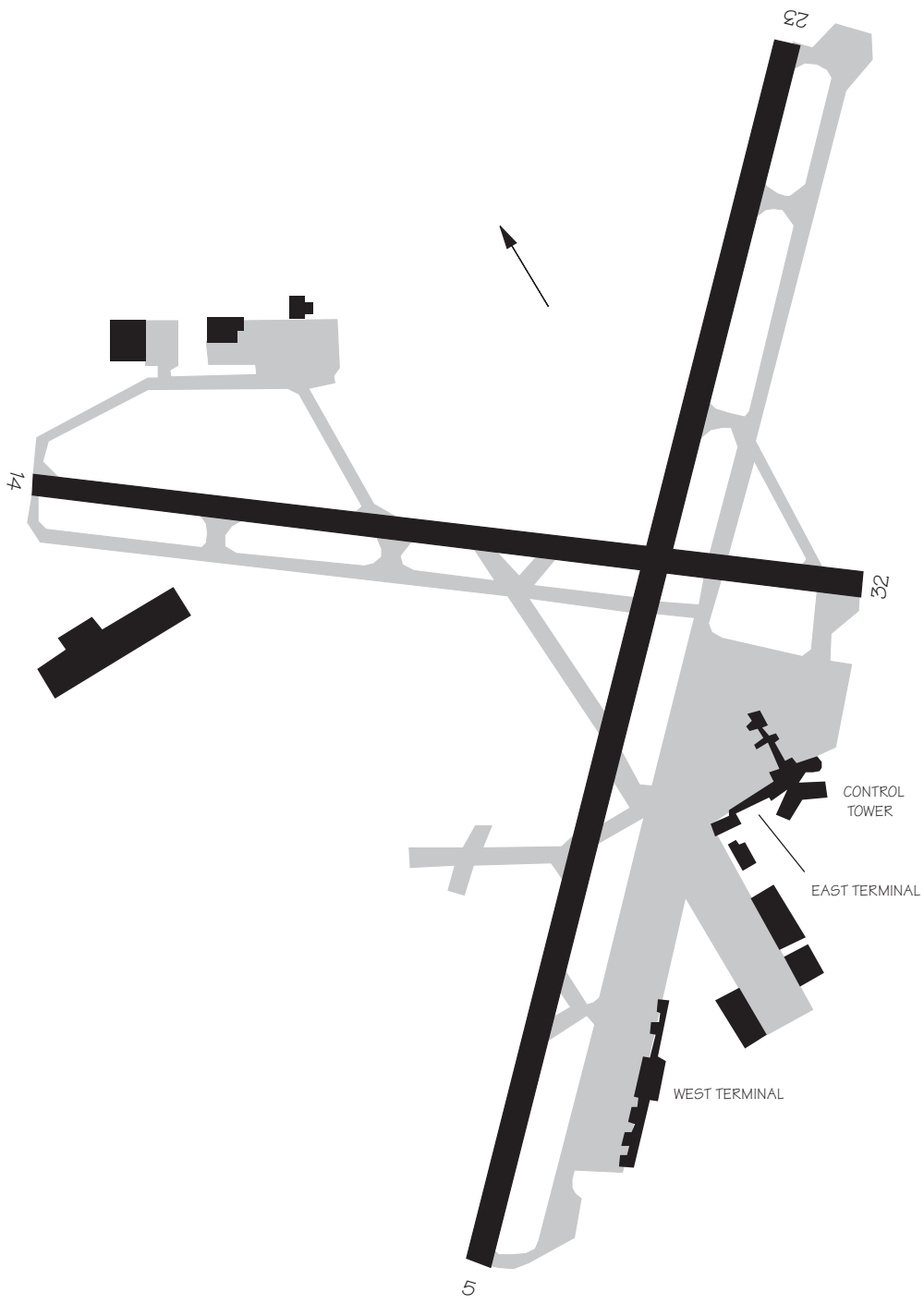
BSM — Bergstrom AFB (new Austin)

The community has approved the sale of revenue bonds for the development of a new airport. The present Robert Mueller Airport cannot be expanded. Bergstrom Air Force Base (AFB) was transferred to the city on October 1, 1993, and the city is now planning to construct a new parallel runway and relocate all commercial activity there in 1998. The total estimated project cost is $520 million. The city has an Airport Master Plan under development. Environmental studies are in progress by the Air Force and the city. Since Robert Mueller Airport will close upon completion of the new airport, no capacity enhancements are planned at Mueller. Some of the construction projects include a new Runway 17L/35R and associated taxiways, new midfield cross taxiways, a new air cargo apron, and renovation of Runway 17R/35L to bring it up to FAA CAT III standards.



Bergstrom Air Force Base Conversion
Opening Day Layout Plan
as of 1-31-95

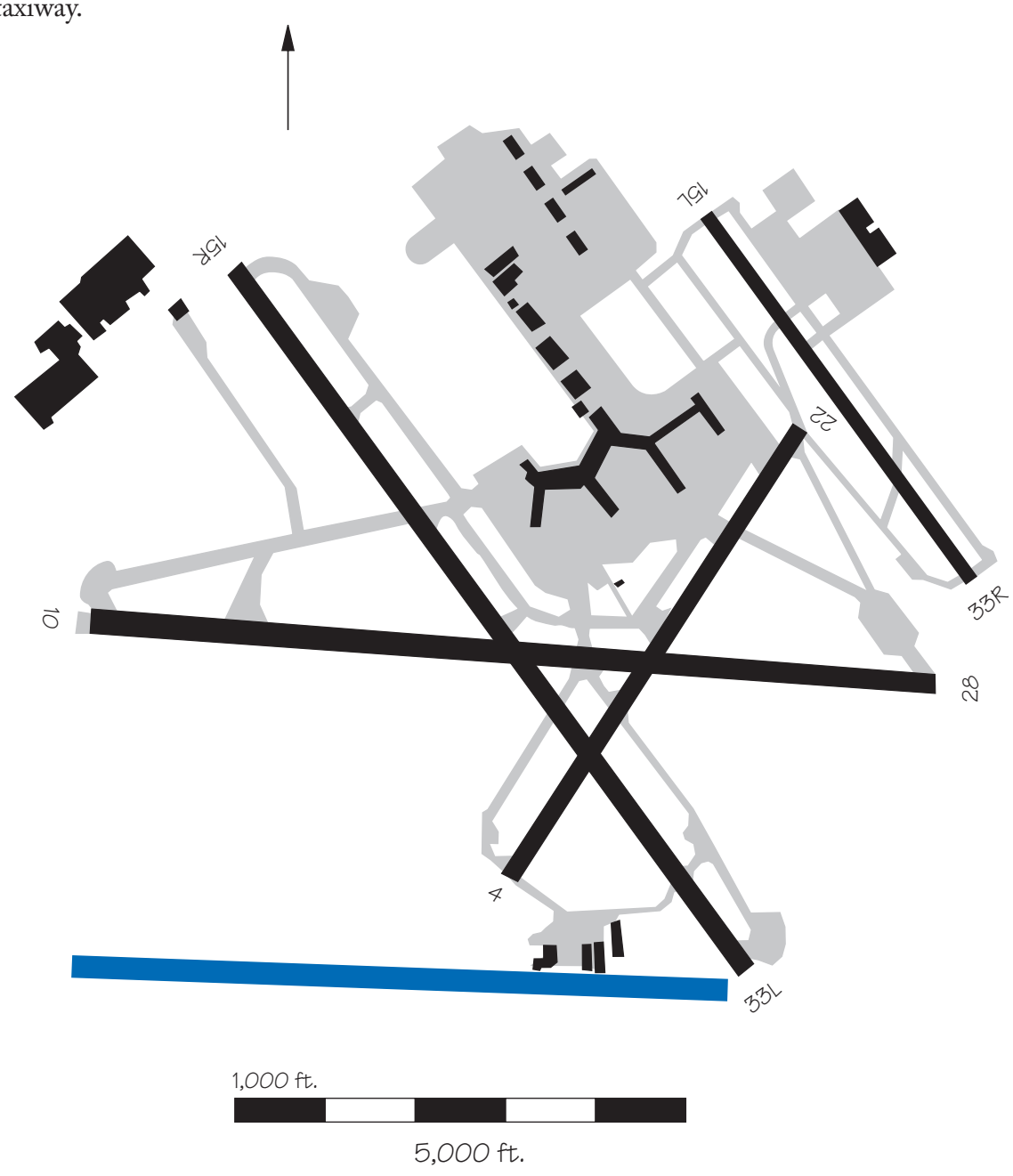
BUF — Greater Buffalo International Airport



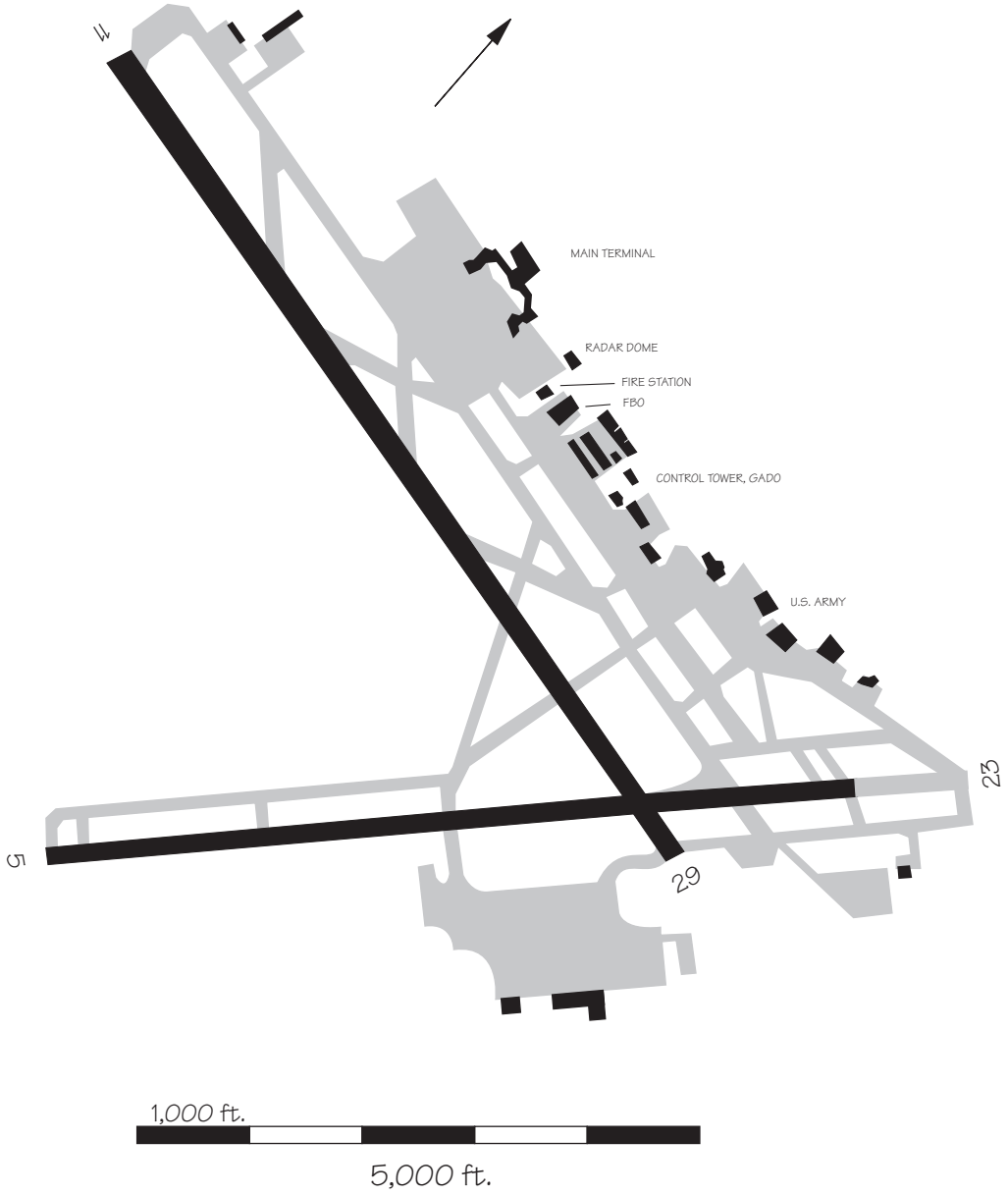
BUR — Burbank-Glendale-Pasadena Airport

BWI — Baltimore-Washington International Airport

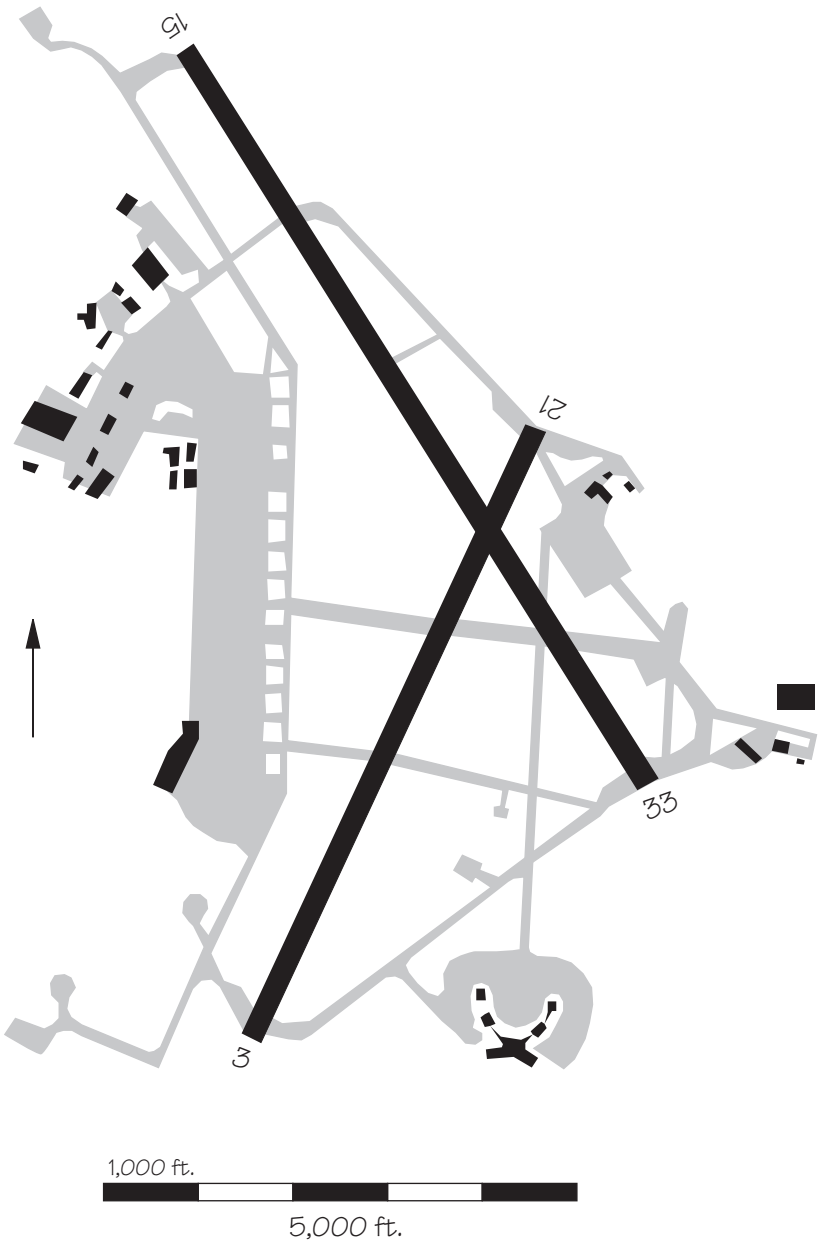
A new 7,800-foot runway, Runway 10R/28L, is planned to be constructed by 2003, 3,500 feet south of Runway 10/28. When Runway 10R/28L is constructed, Runway 4/22 will be converted to a taxiway.



CAE — Columbia Metropolitan Airport

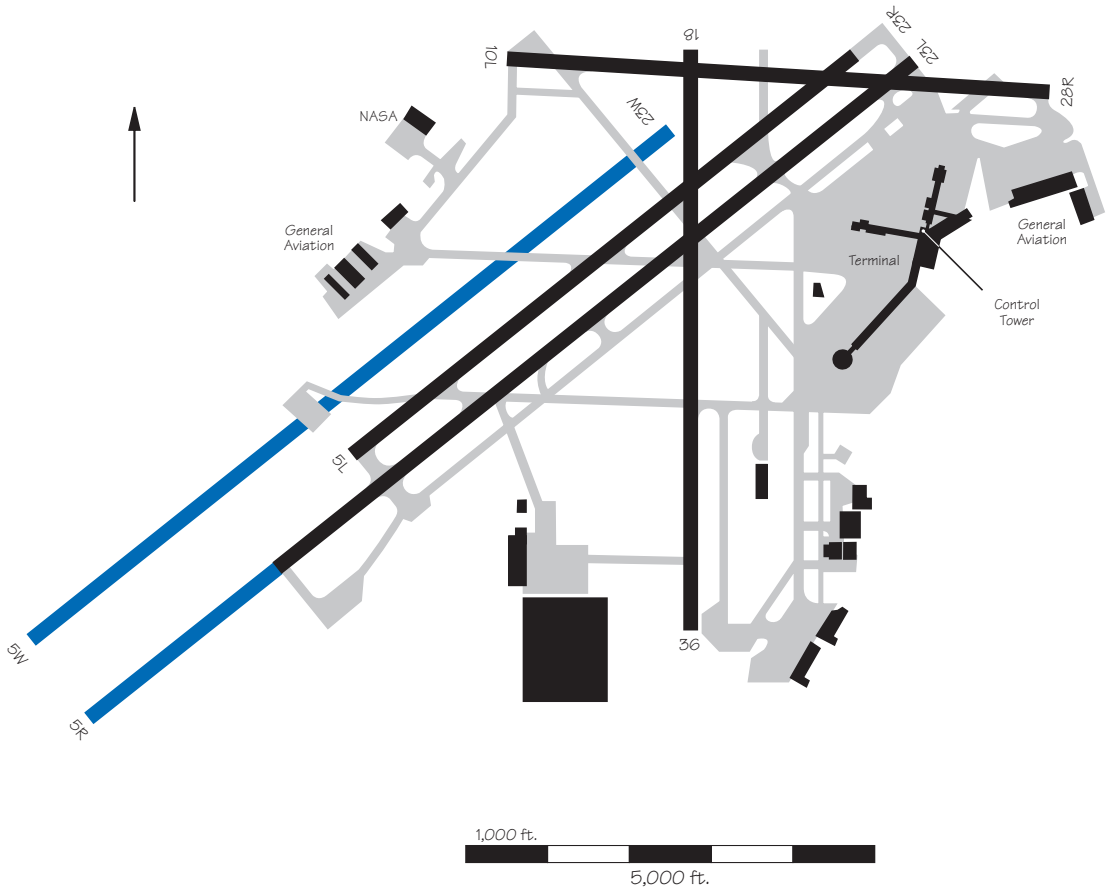


CHS — Charleston AFB International Airport



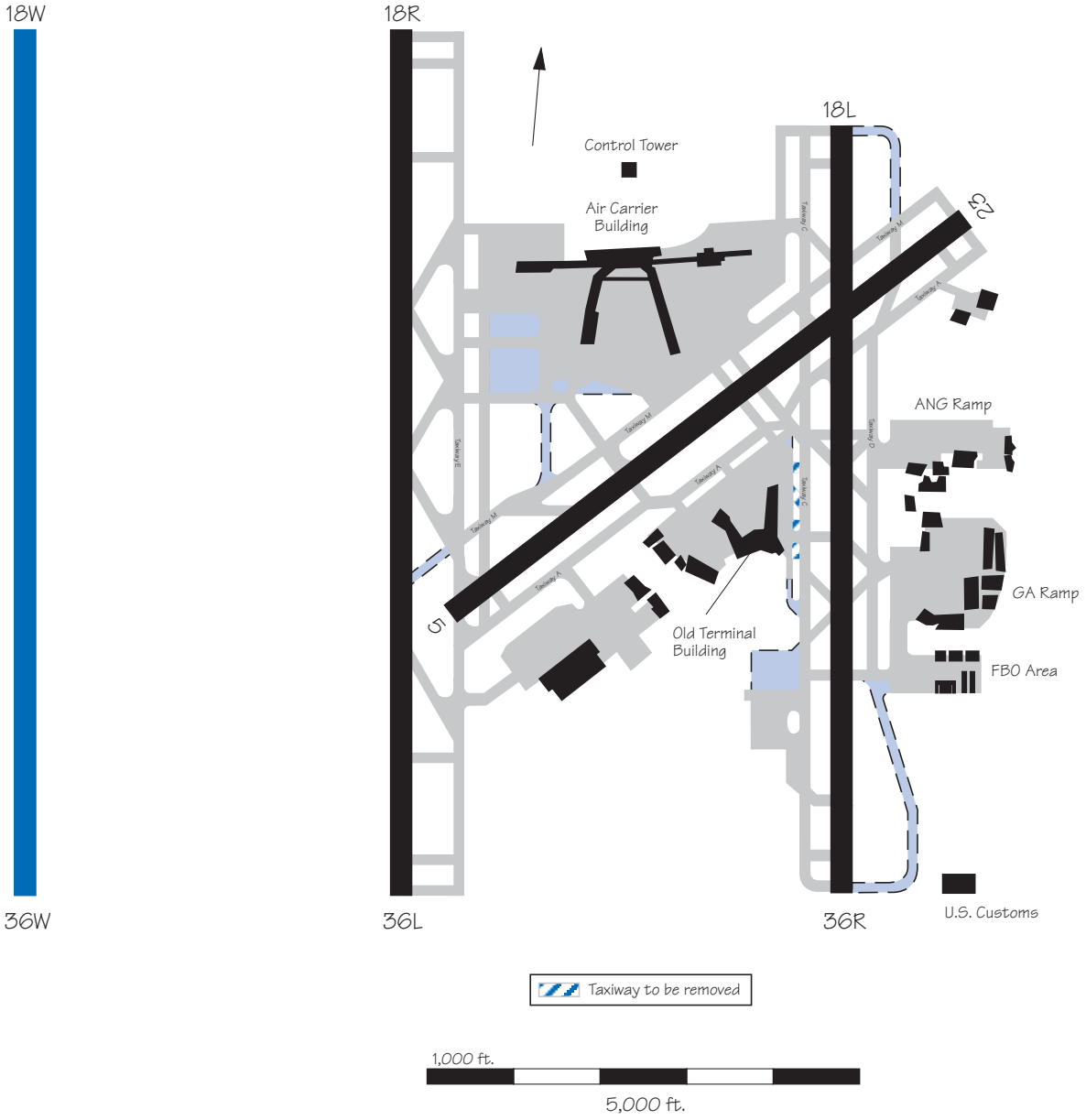
CLE — Cleveland Hopkins International Airport

The Master Plan Update, Phase 1, is conditionally approved. The Airport Layout Plan shows construction of a new Runway 5W/23W that would be 10,950 feet long and 150 feet wide. Construction is expected to be completed in 2000 at a cost of $180 million. Also included in the development plan is an extension of the existing Runway 5R/23L from 7,095 feet to 9,000 feet at an estimated cost of $40 million and conversion of the existing Runway 5L/23R to a parallel taxiway at a cost of $3 million. All of this work is scheduled for completion in 2005.



CLT — Charlotte/Douglas International Airport

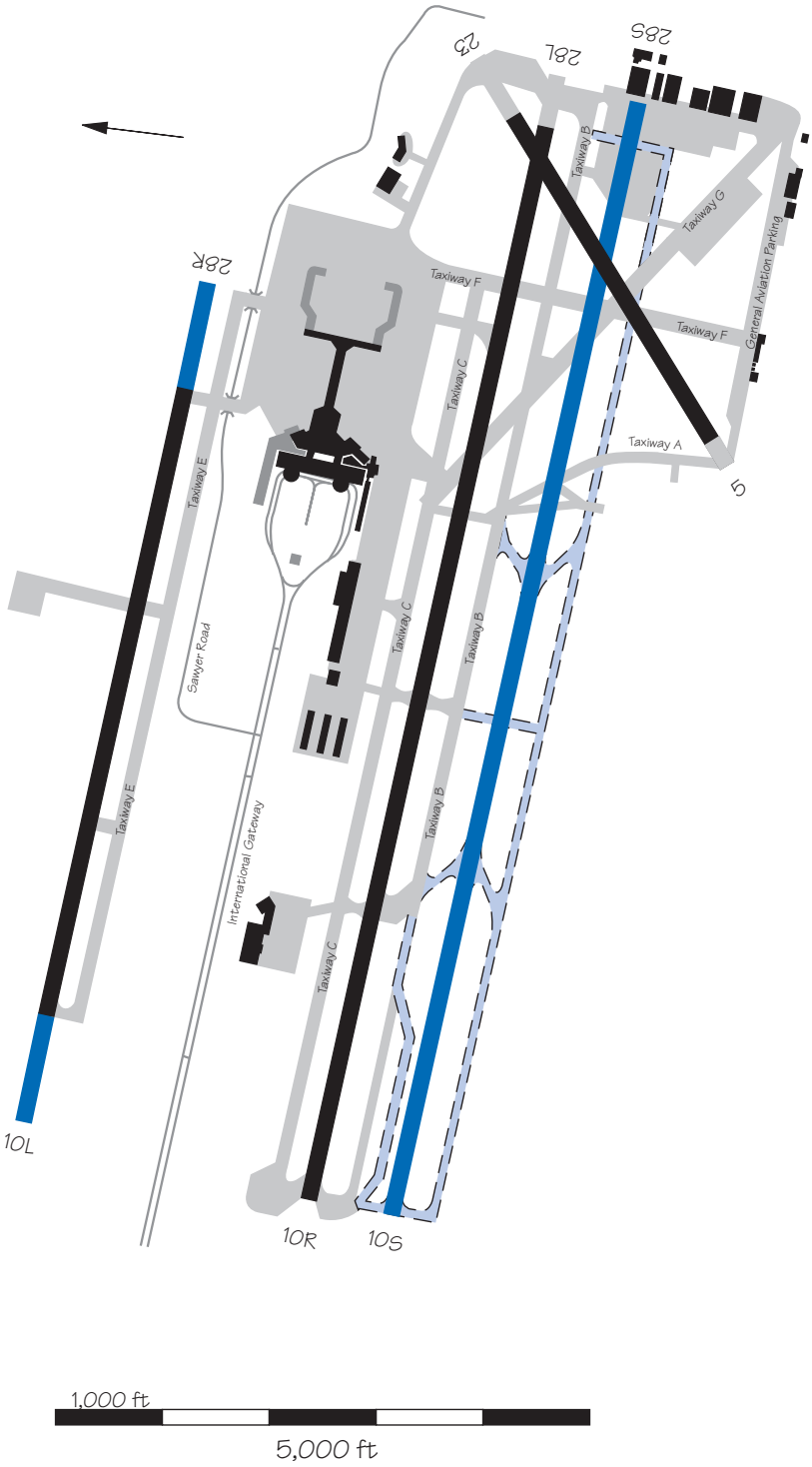
A third parallel 9,000-foot runway, 3,700 feet west of Runway 18R/36L, is being planned. It would permit triple IFR dependent approaches. An Environmental Impact Study is underway and is expected to be completed by mid 1998. Construction is expected to start in late 1998 and be completed in 2001, at an estimated cost of $160 million.



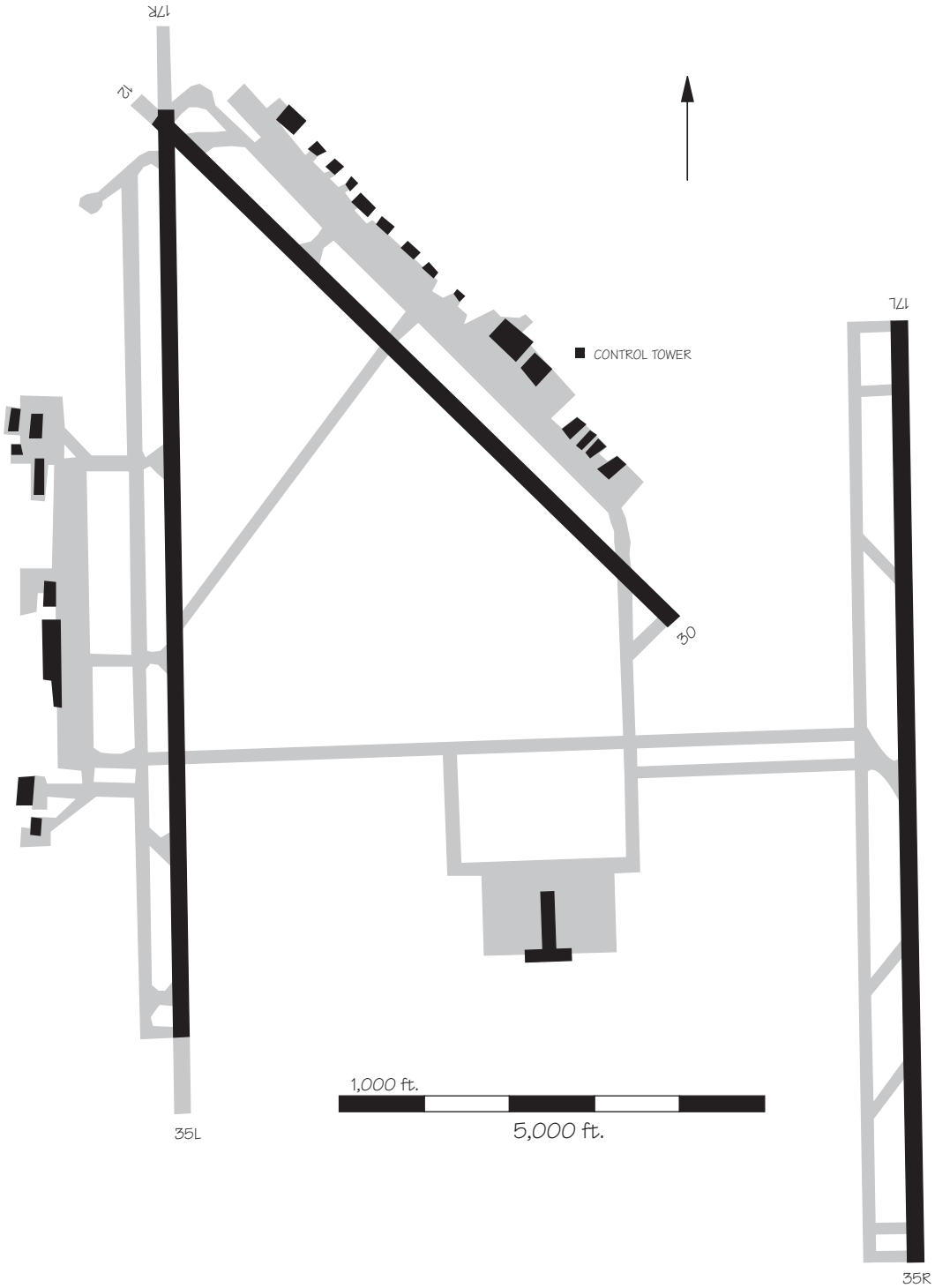
CMH — Port Columbus International Airport

The Airport Layout Plan has been coordinated to show a third parallel Runway 10S/28S constructed 800 feet south of the existing Runway 10R/28L. This runway will be 10,250 feet long and 150 feet wide, with two high speed exits, a 90 degree exit at the center, and a 90 degree bypass taxiway at each end. This would provide a 3,650 foot separation between the proposed Runway 10S/28S and the existing Runway 10L/28R. With the installation of the Precision Runway Monitor (PRM), the existing Runway 10L/28R and the proposed Runway 10S/28S could be used for arrival air traffic. Runway 10R/28L would be used as the departure runway. A 1,000 foot extension to Runwy 28R was completed in late 1996.

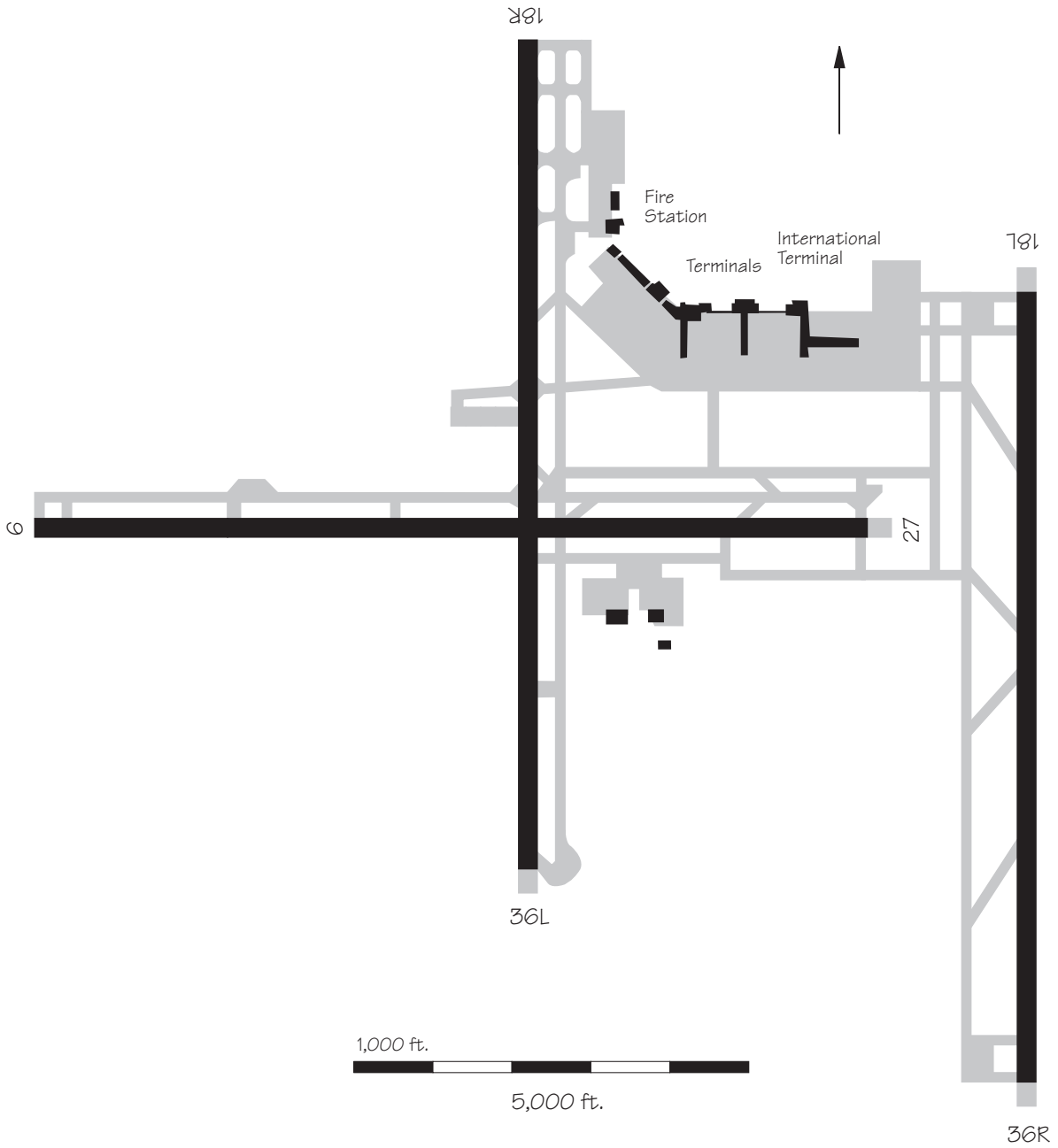
The existing Runway 10L is being extended 1,000 feet and will be completed in 1997. Upon completion, Runway 10L/28R will be 8,000 feet long and 150 feet wide.



COS — Colorado Springs Municipal Airport

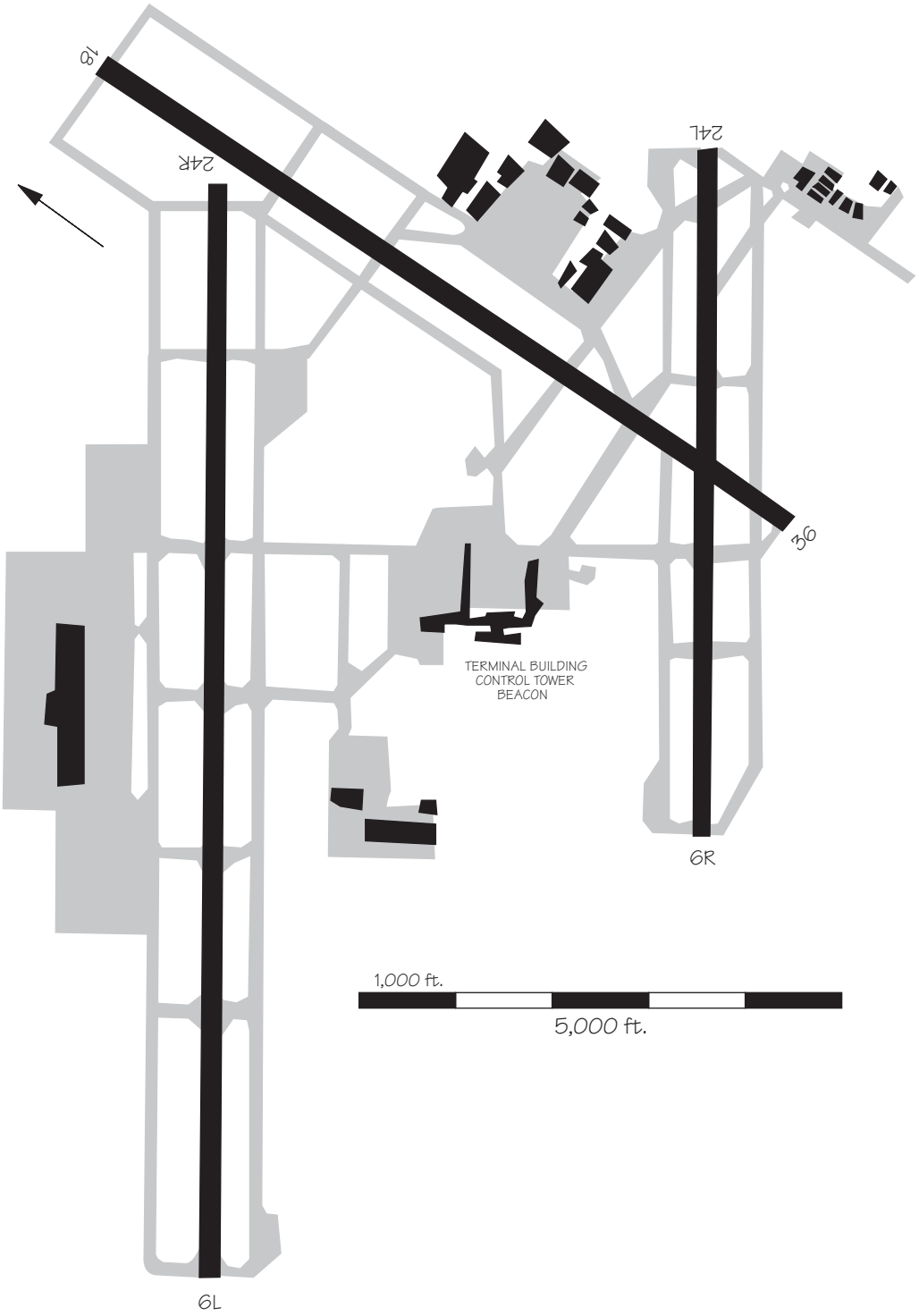


CVG — Greater Cincinnati International Airport

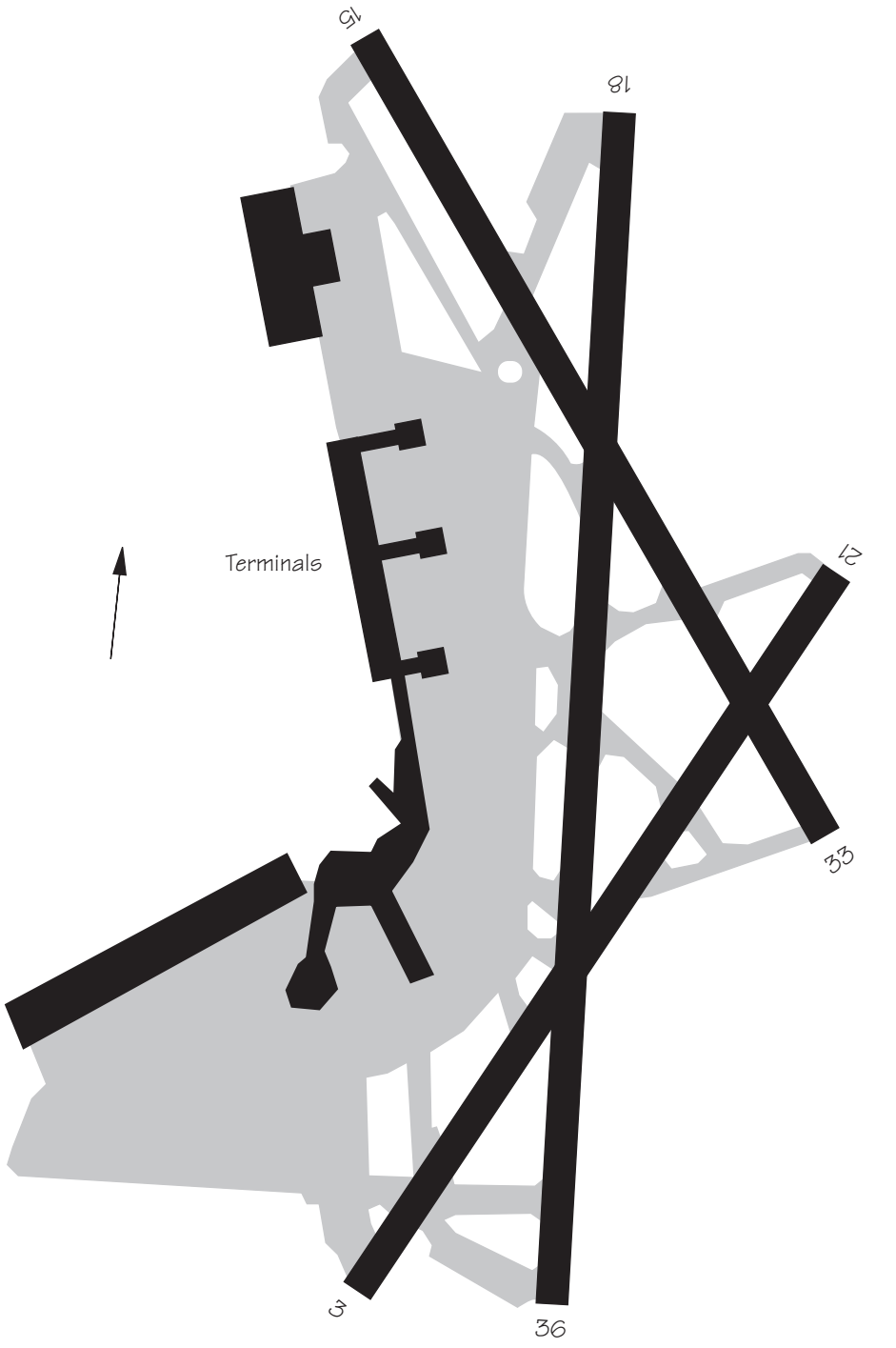


DAL — Dallas-Love Field

DAY — Dayton International Airport

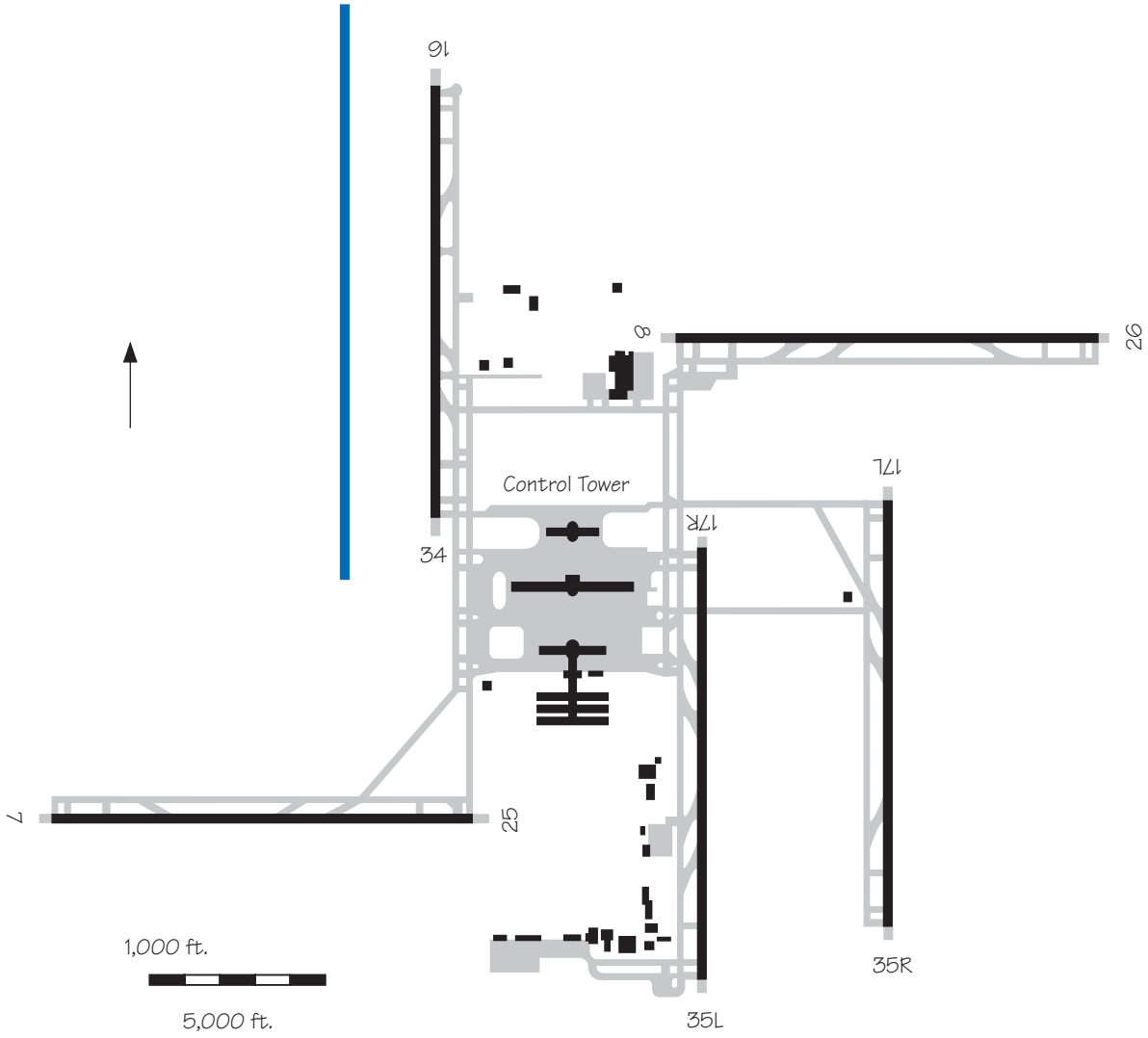


DCA — Washington National Airport



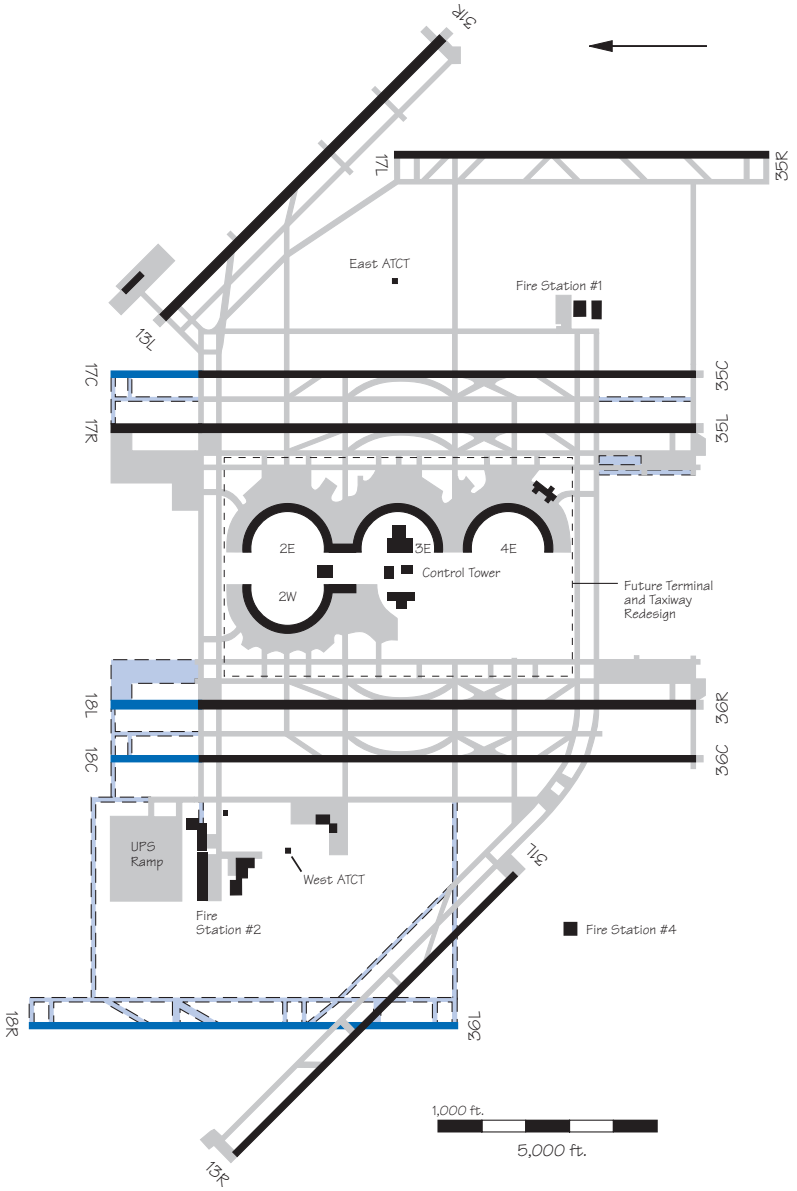
DEN — Denver International Airport

Runway 16R/34L is the last of the six original runways to be built at the new airport. It will be separated 2,600 feet from Runway 16L/34R, and be 16,000 feet in length. The runway is expected to be completed in 2000, at an estimated cost of $75 million.



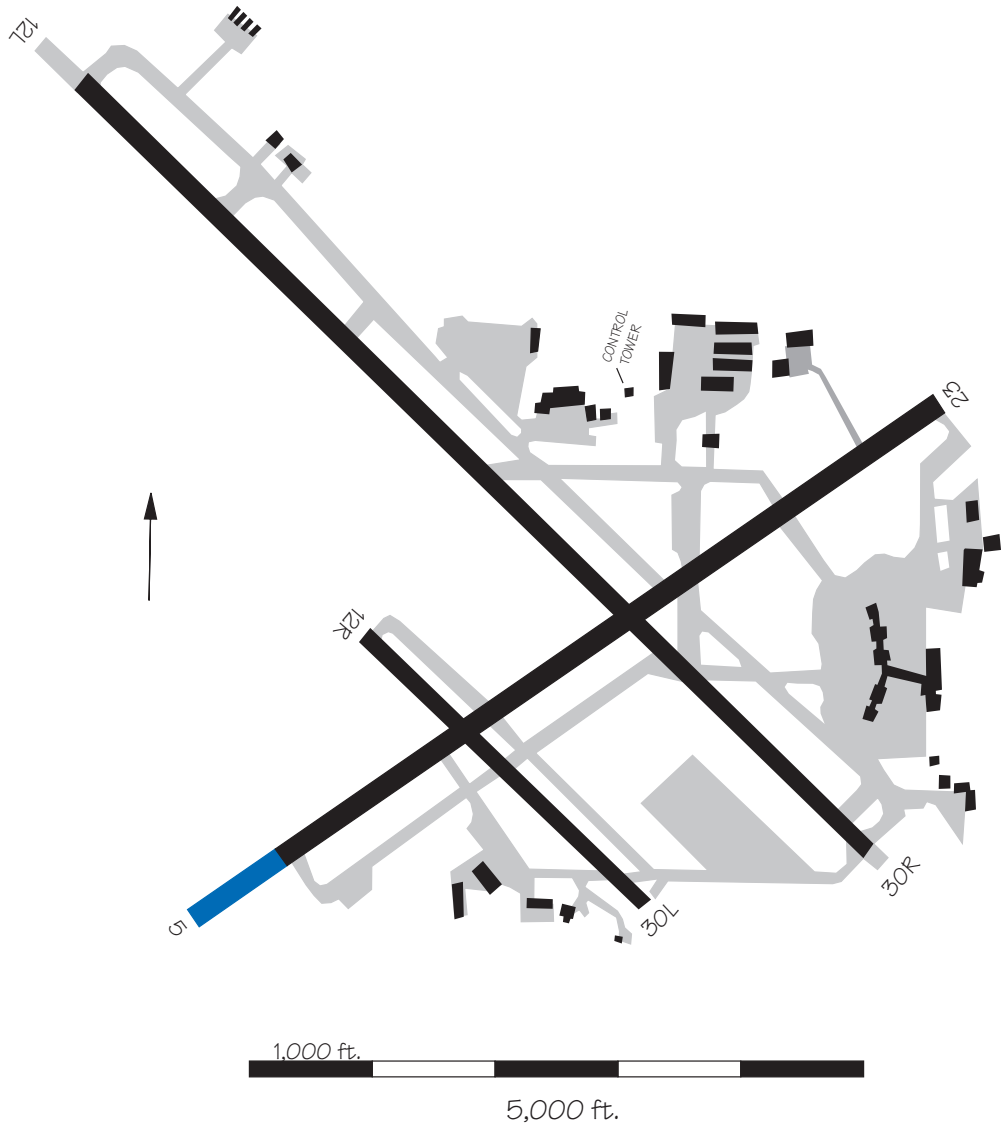
DFW — Dallas-Fort Worth International Airport

Proposed 2,000-foot extensions to all of the north/south parallel runways will provide an overall length of 13,400 feet for each. Environmental assessments for the extension to Runway 17C/35C, Runway 18L/36R, and Runway 18R/36L are expected to be completed in 1997. The estimated cost of each extension is $25 million. A terminal expansion program is underway that will add five new jet departure gates to the soughside of Terminal 2W; provide baggage and passenger connections to Terminal 2E; and renovate a portion of Terminal 2W. The total cost of this program is approximately $100 million and is scheduled for completion in 1999. Construction on the west runway, Runway 18R/36L, will begin when warranted by aviation demand. It could be available as early as 2003. The estimated cost is $268 million. It will be located 5,800 feet west of Runway 18R/36L (to be renamed 18C/36C). Runway 18R/36L may be constructed in phases, with the first phase a 6,000 foot runway located north of Runway 13R/31L. The second phase extension to 9,760 feet would intersect and continue south of Runway 13R/31L. The addition of Runway 18R/36L will allow DFW to accomodate quadruple simultaneous precision instrument approaches.



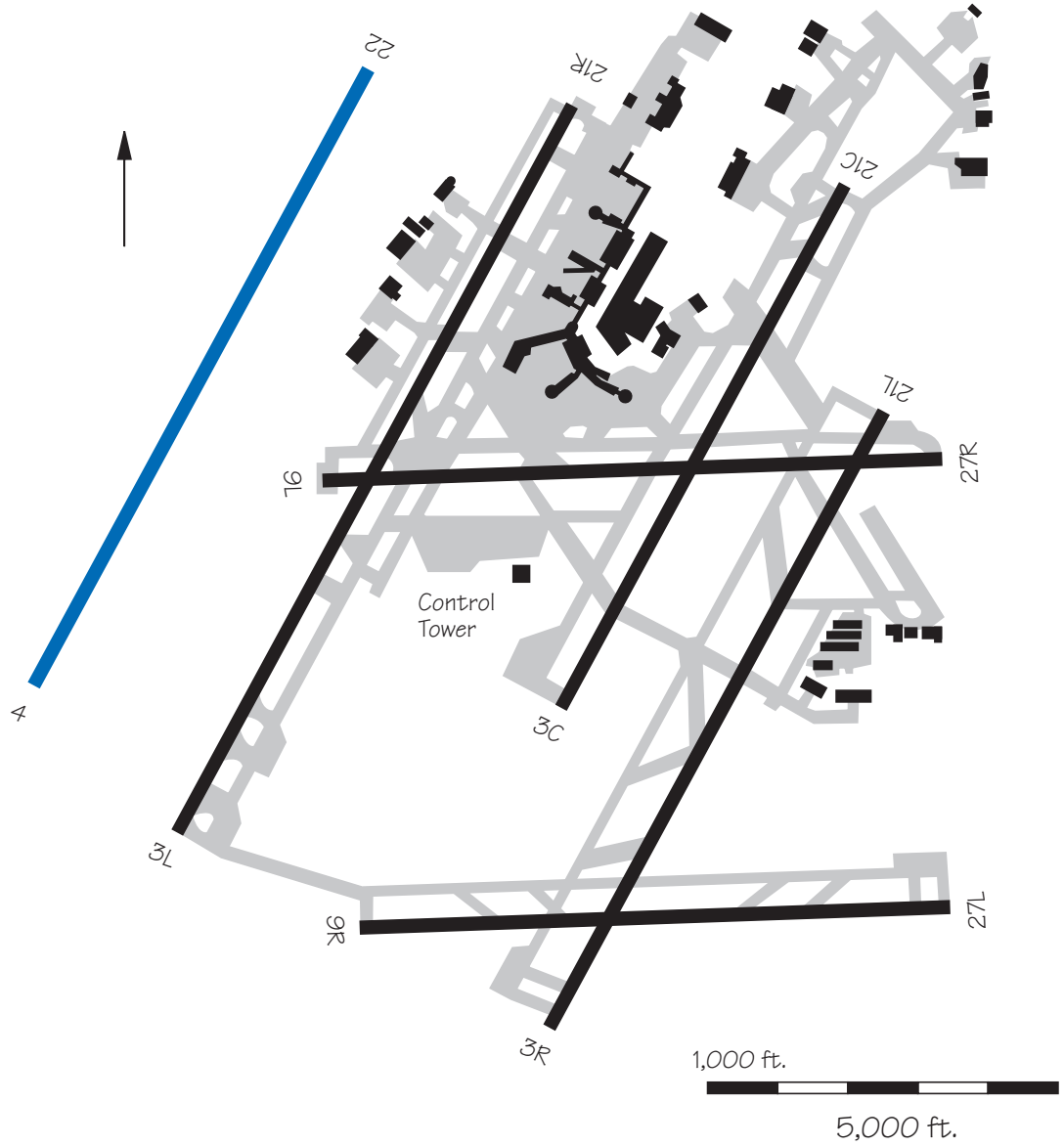
DSM — Des Moines International Airport

An Environmental Impact Study was recently completed on a southwest extension of Runway 5/23. Construction is planned to begin in 1997, and is expected to be completed in 2001. Cost for construction is estimated at $28 million, with an estimated additional $20 million for road relocation.



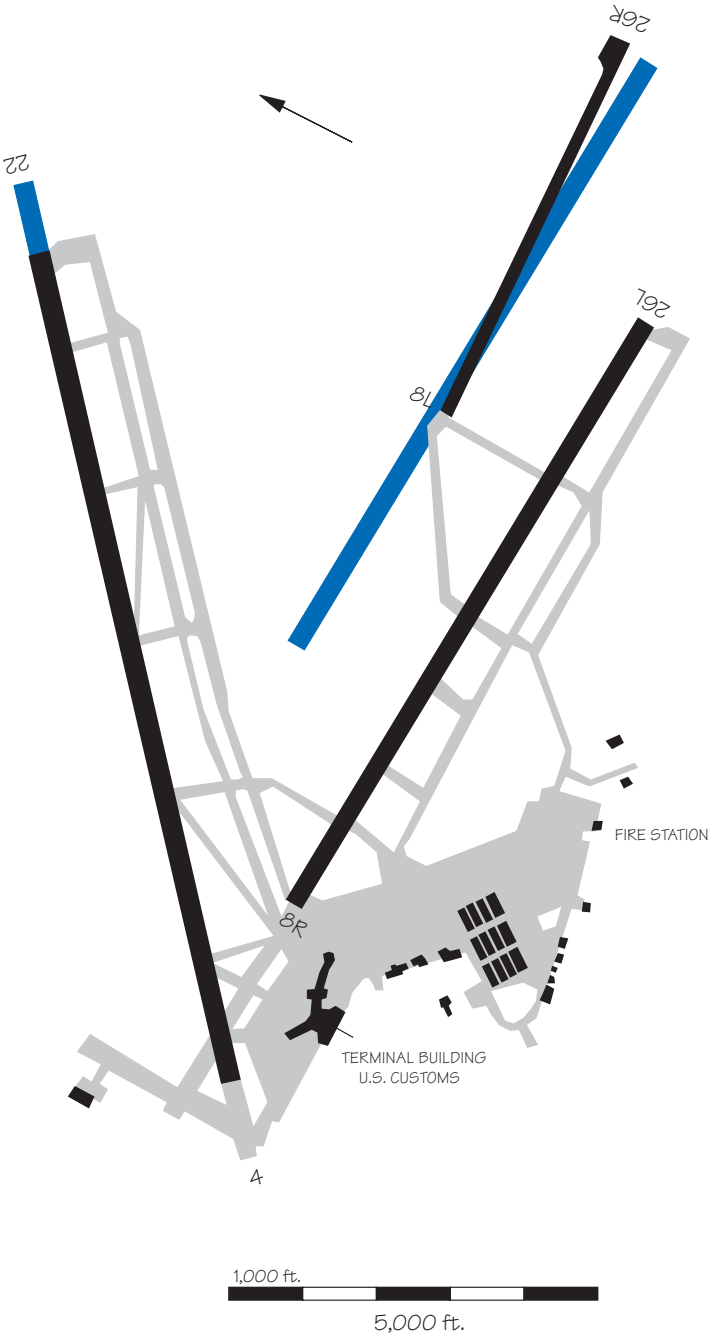
DTW — Detroit Metropolitan Wayne County Airport

A fourth north-south parallel, Runway 4/22 is planned. Construction is expected to begin in 1999 and should be completed in 2001. The estimated cost of construction is $116.5 million. This runway could potentially permit triple IFR arrivals with one dependent and one independent pairing. An environmental assessment was submitted in September 1989, and a record of decision was issued in March 1990. Land acquisition is currently in progress.



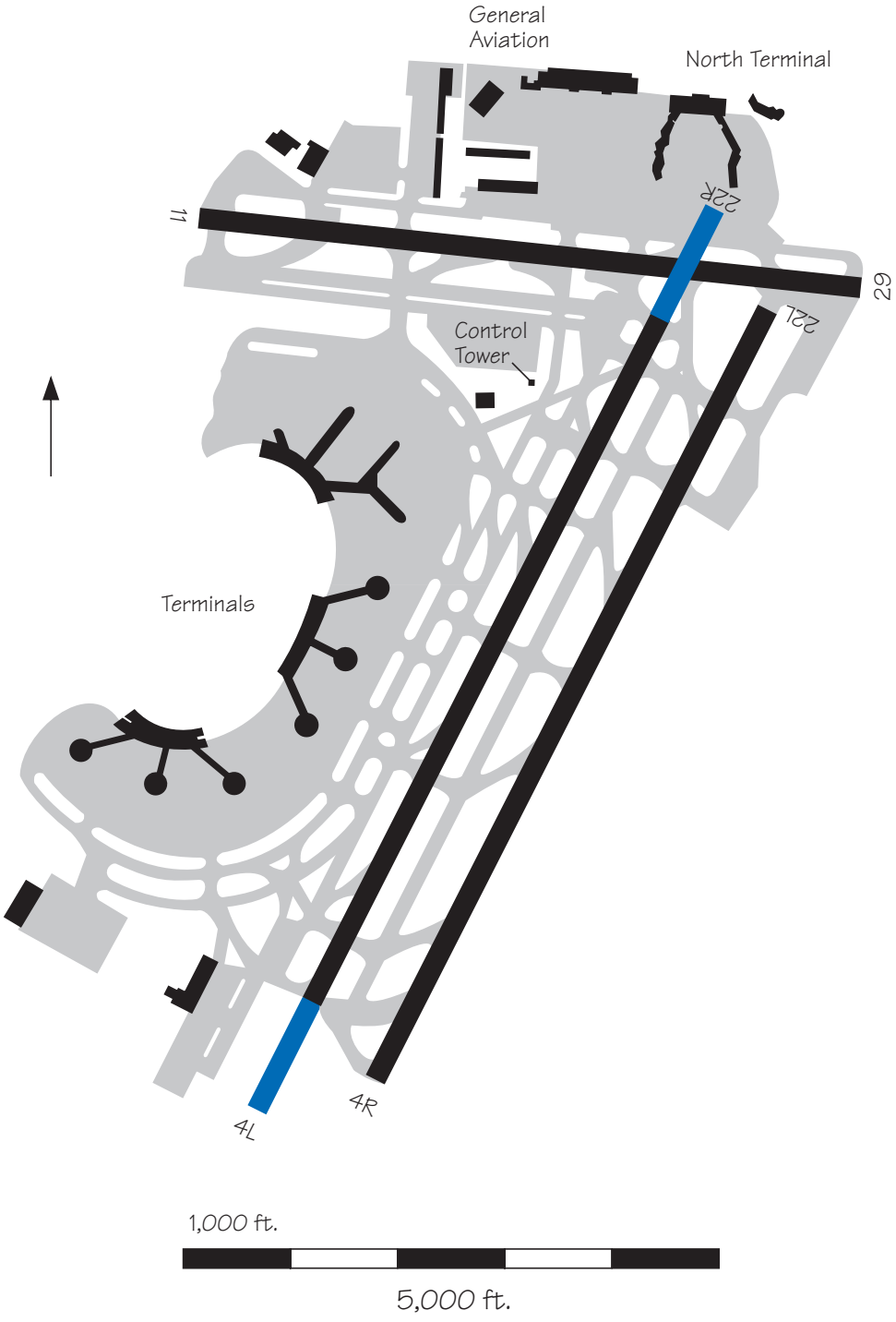
ELP — El Paso International Airport

A new parallel Runway 8L/26R is shown on the current Airport Layout Plan for the year 2010 plus time frame. Estimated cost would be $20-30 million. In addition, a 1,000 ft. extension to Runway 22 is included in the currently approved Passenger Facility Charge for the year 2000. Estimated cost would be $8 million.



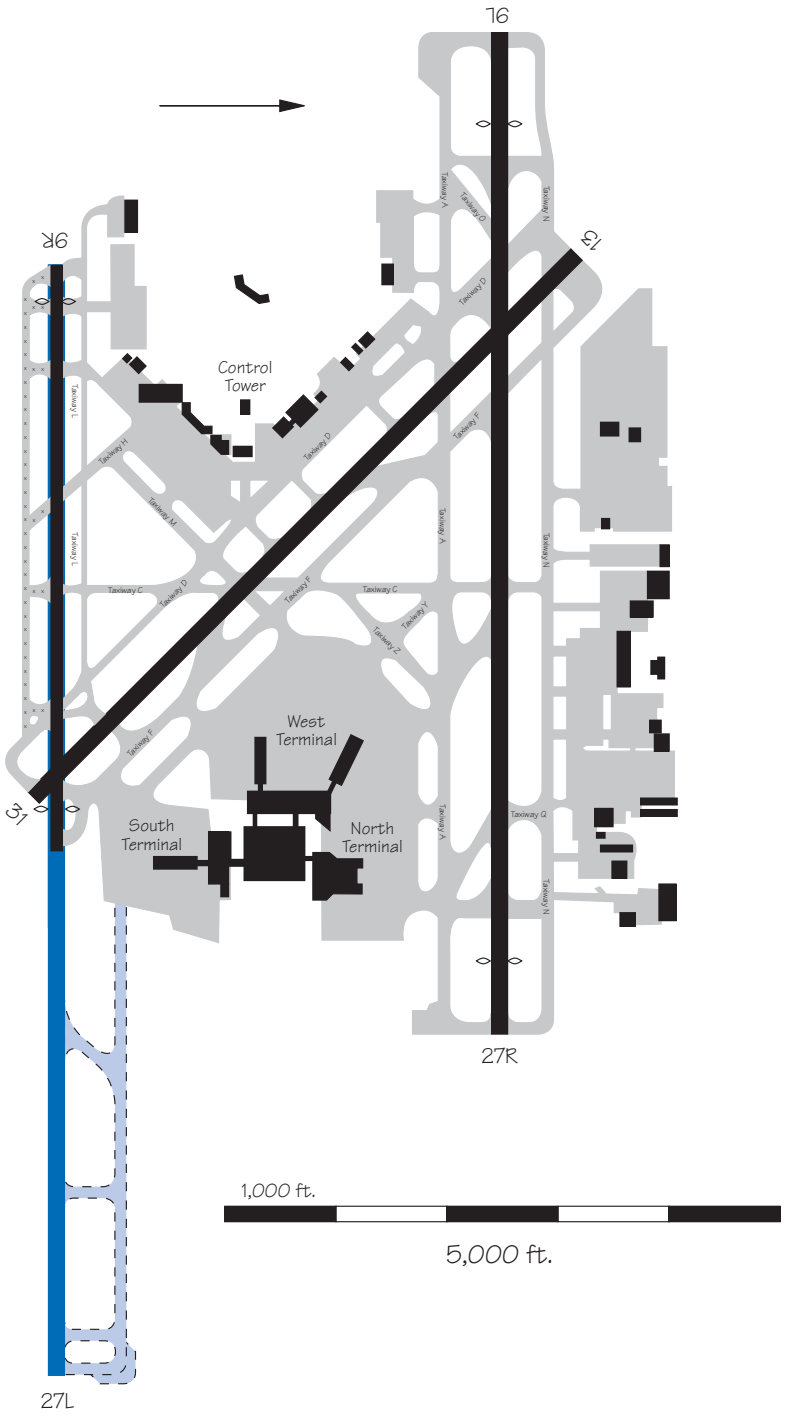
EWR — Newark International Airport

An extension to Runway 4L/22R is in the preliminary planning stage. The estimated operational date is 2000.



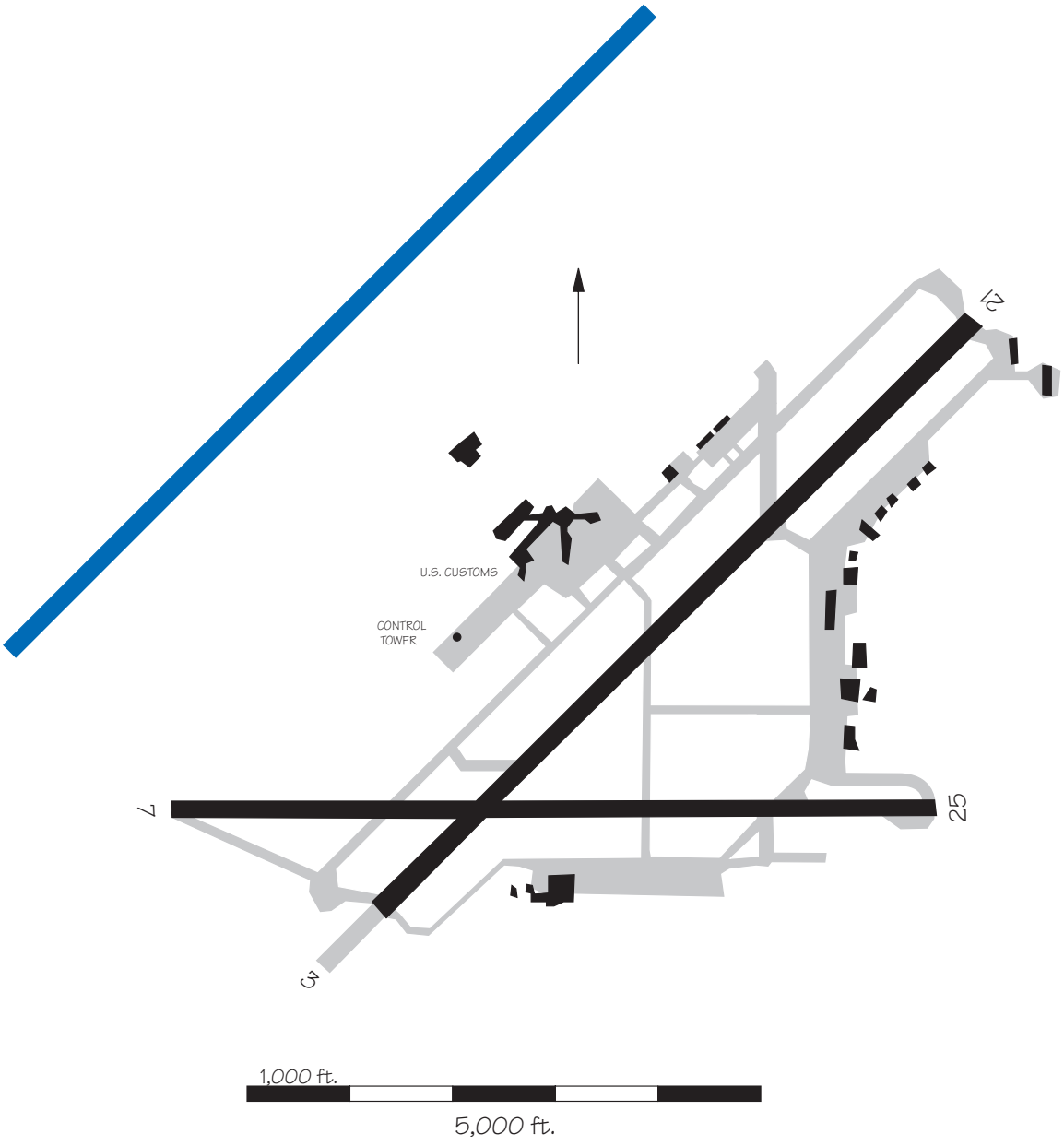
FLL — Fort Lauderdale-Hollywood International Airport

An extension of the short parallel Runway 9R/27L to 9,000 feet is planned to provide the airport with a second parallel air carrier runway. Construction is expected to begin in 2000. The estimated cost of construction is $300 million. The anticipated operational date is 2003. An EIS is underway and expected to be completed in 1998.



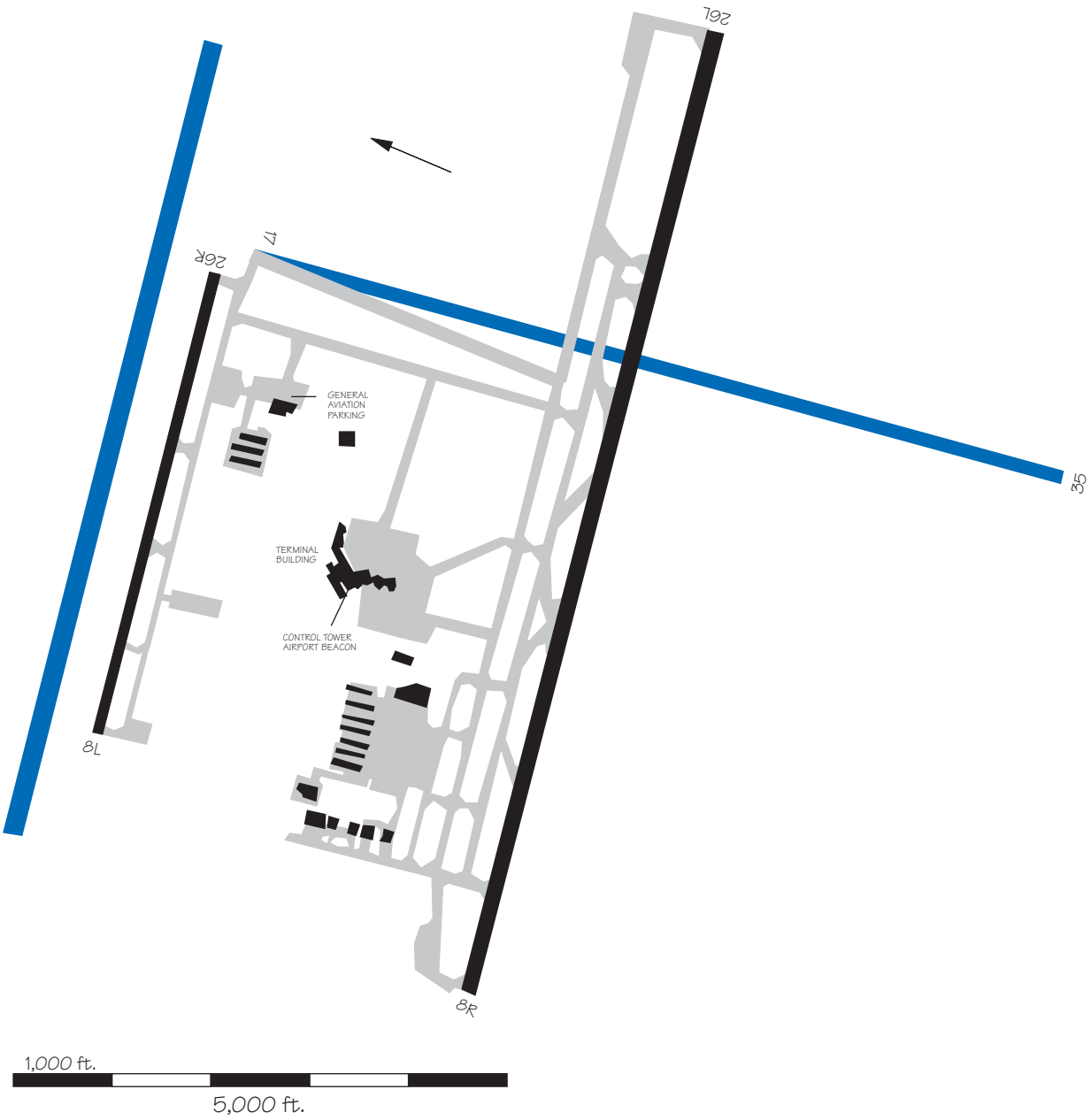
GEG — Spokane International Airport

Future projects include the construction of a new parallel Runway 3L/21R. The new runway will be 8,800 feet long by 150 feet wide and will be separated from Runway 3R/21L by 4,300 feet. This would enable independent parallel operations, doubling hourly IFR arrival capacity. The estimated cost of construction of the new runway is approximately $11 million. The runway may be completed by 2010.



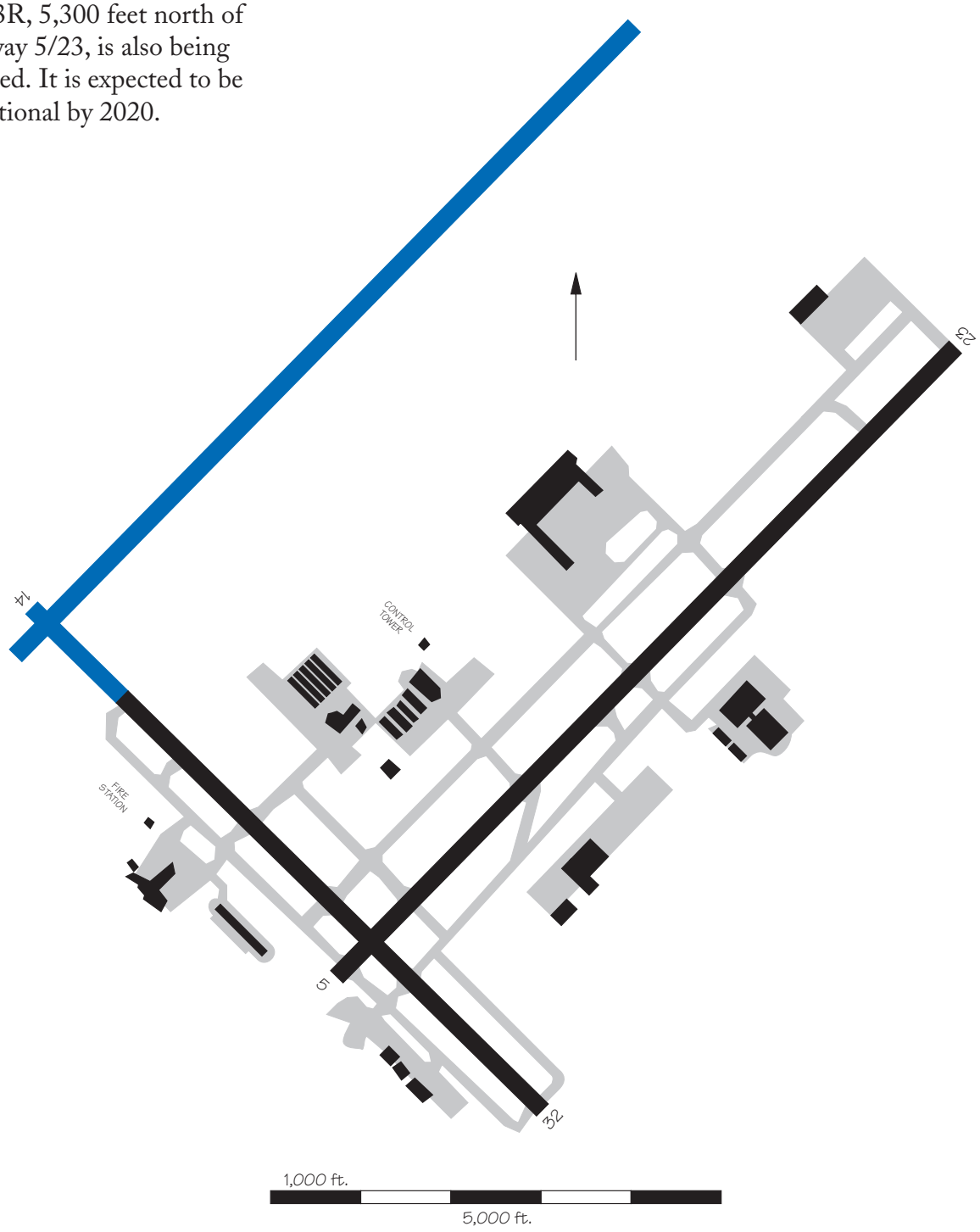
GRR — Grand Rapids Kent County International Airport

An extension to 8,500 feet and realignment for the crosswind Runway 18/36 (17/35) is under construction. Estimated cost is $58 million. The runway will provide wind coverage, noise relief, and reduce winter weather related delays by providing a second air carrier runway. Construction is expected to be complete in 1997. A new 7,000 foot parallel Runway 8L/26R is planned for future development. The current 8L/26R would be converted into a taxiway at that time.



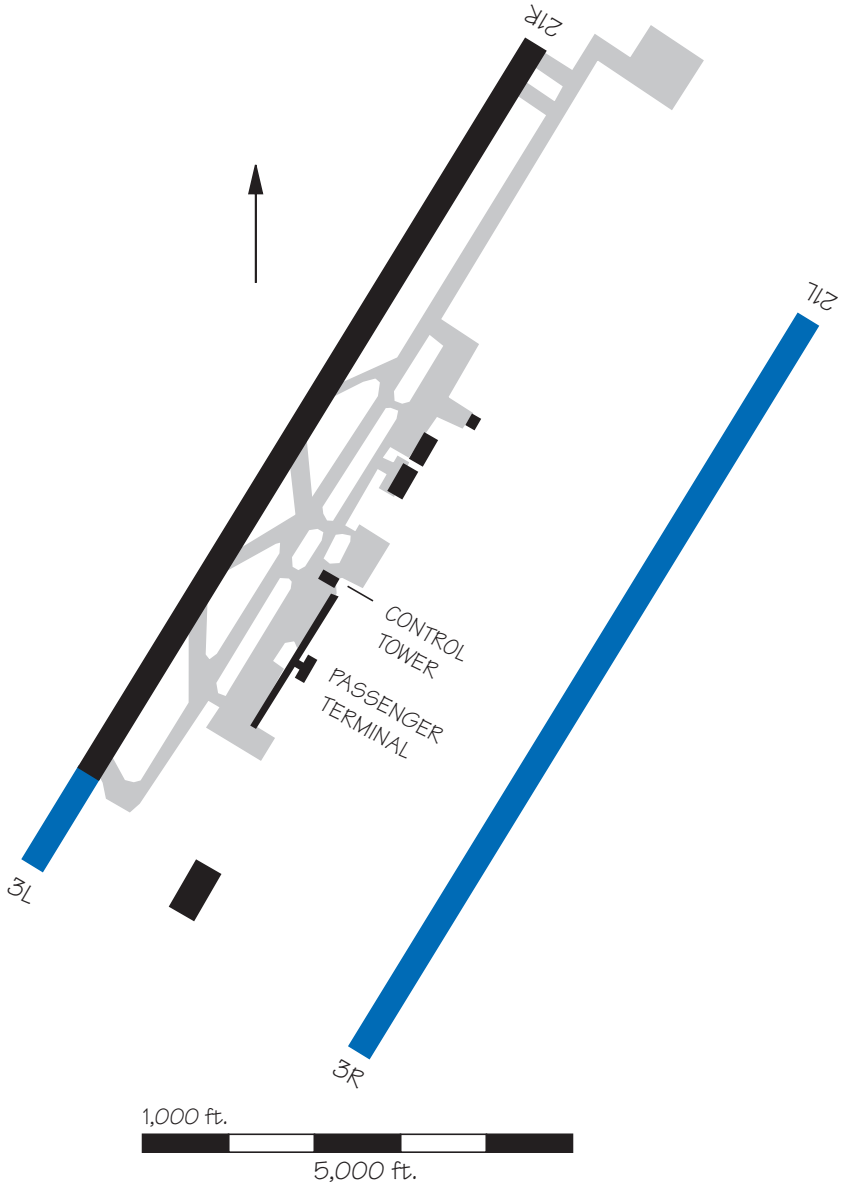
GSO — Greensboro Piedmont Triad International Airport

An extension of Runway 14/32 is planned. It is expected to be operational by 2004, at a cost of $27 million. Construction of a new parallel Runway 5L/23R, 5,300 feet north of Runway 5/23, is also being planned. It is expected to be operational by 2020.

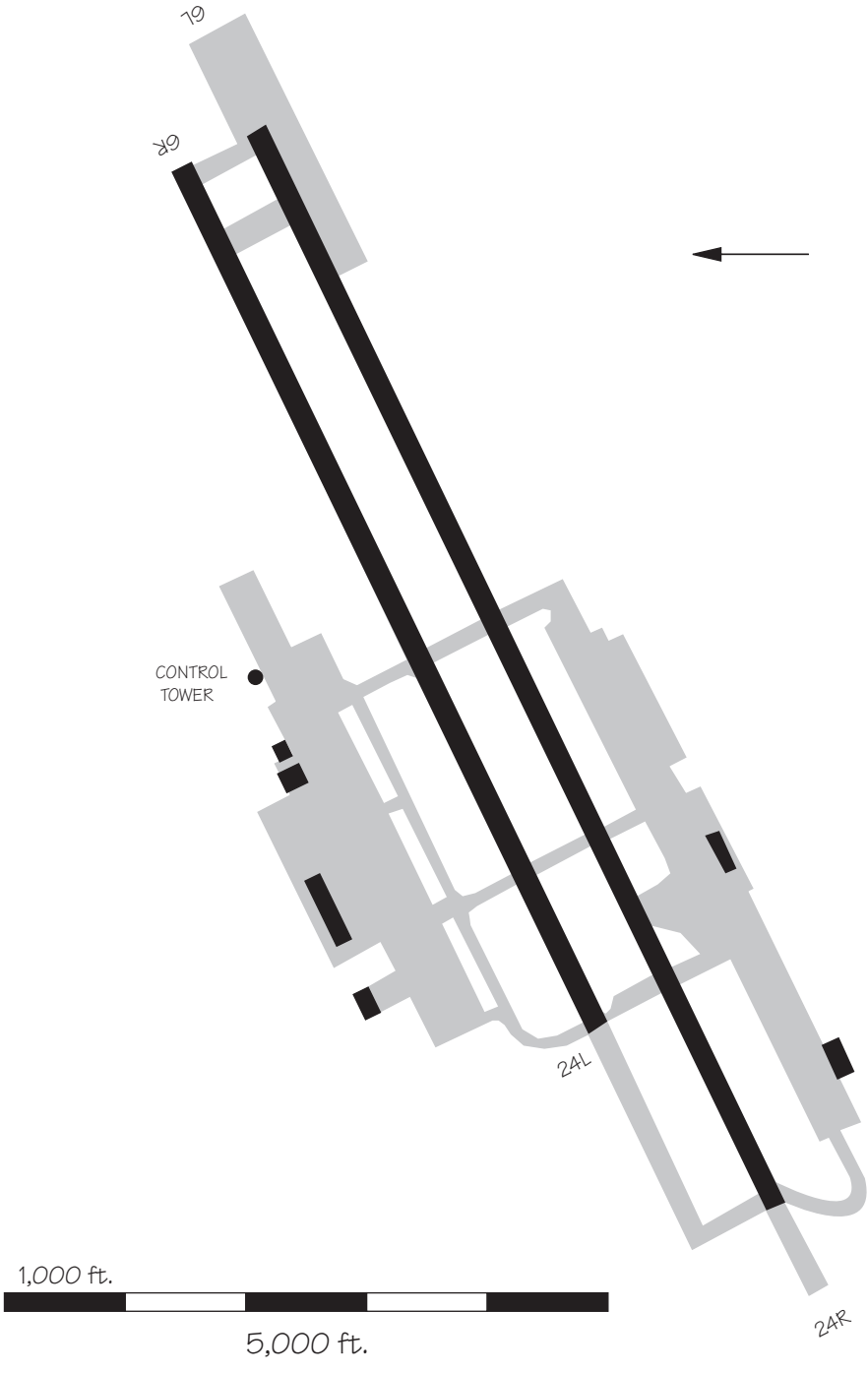


GSP — Greer Greenville-Spartanburg Airport

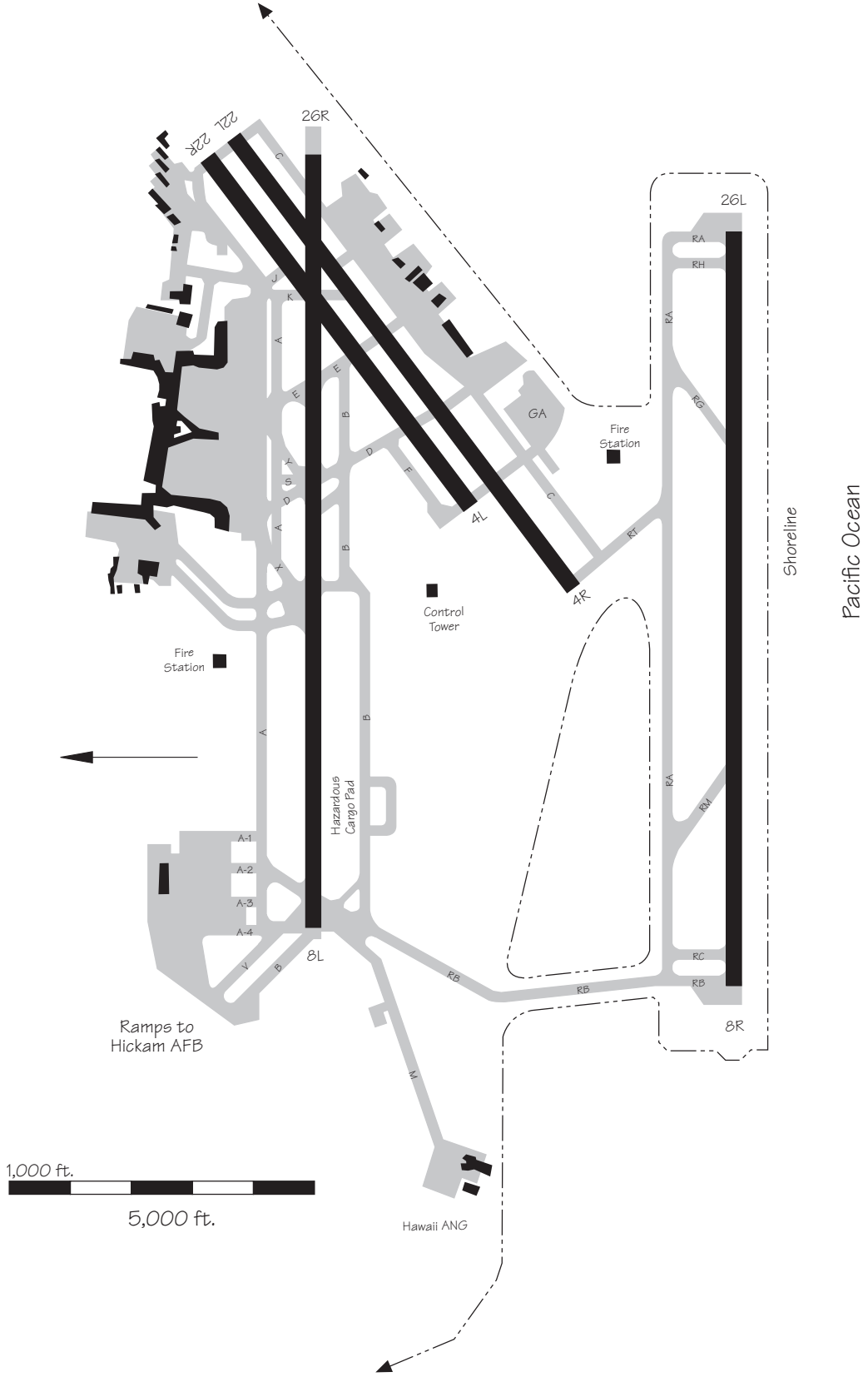
A new parallel runway, Runway 3R/21L, is anticipated in 2010 at an estimated cost of $65 million. Presently, its planned length is 8,200 feet with a 4,300 foot separation from Runway 3/21. This would potentially double hourly IFR arrival capacity Also, an extension of Runway 3L/21R to 11,000 ft is expected to be completed by 1999 at a cost of $34.1 million.



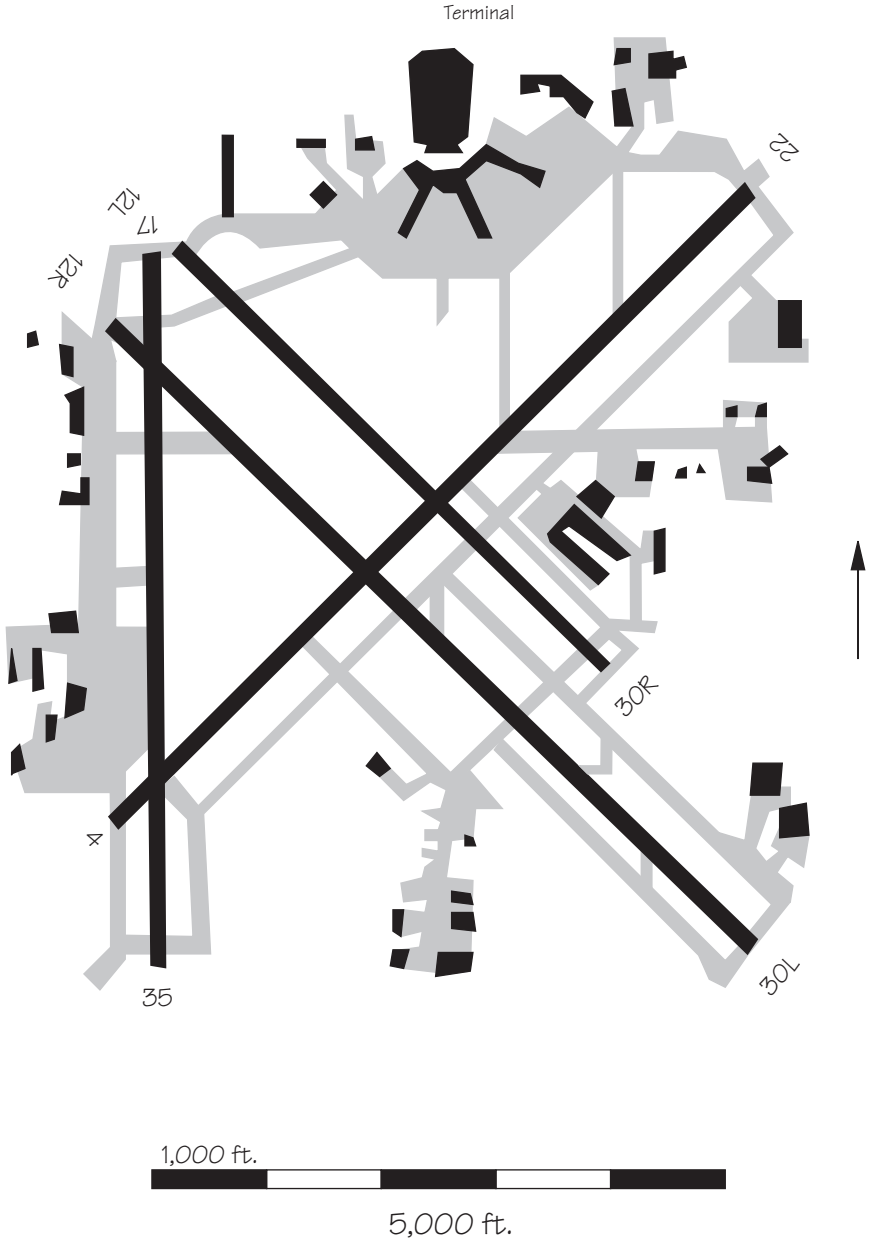
GUM — Guam International Airport



HNL — Honolulu International Airport

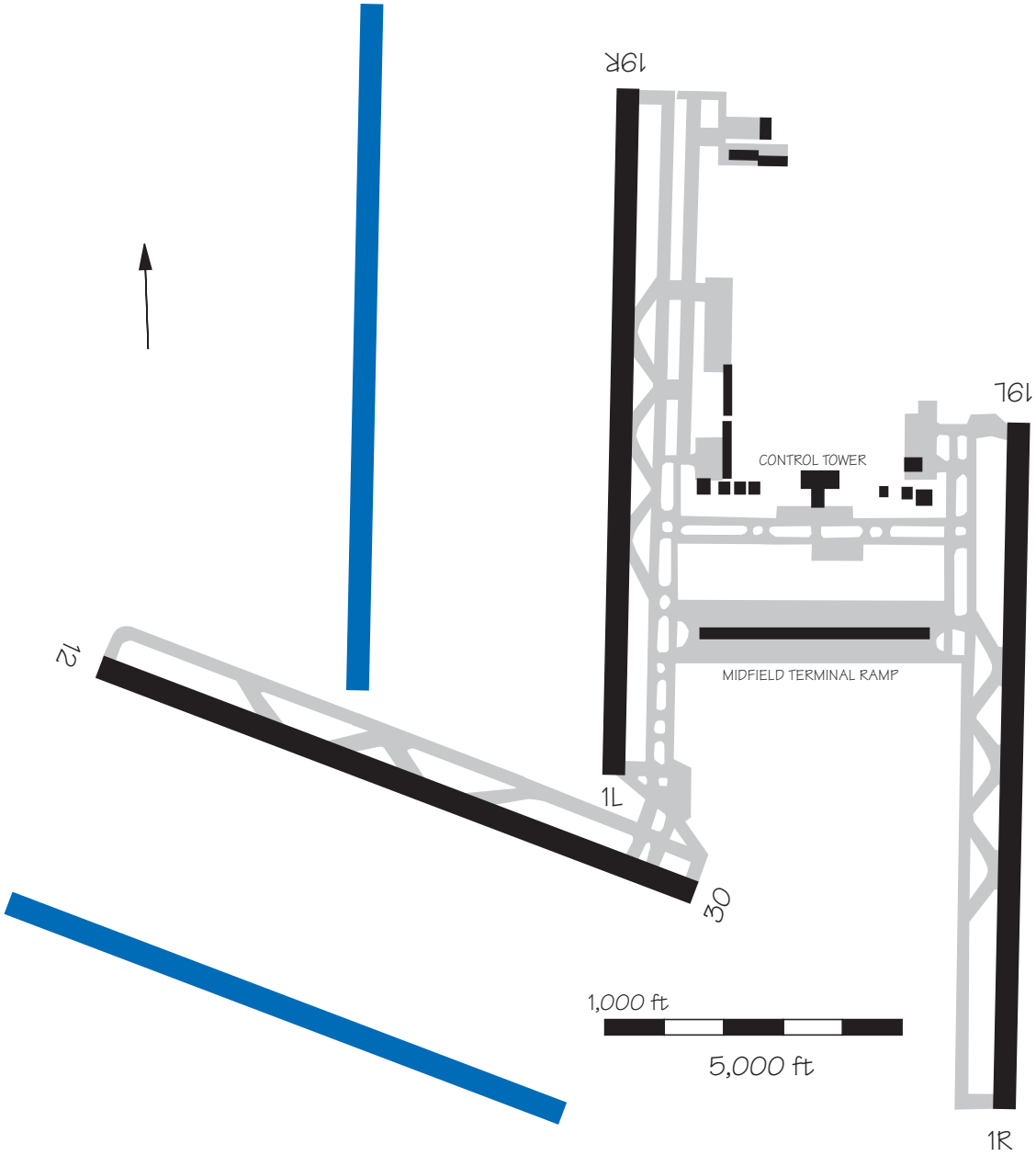


HOU — Houston William P. Hobby Airport



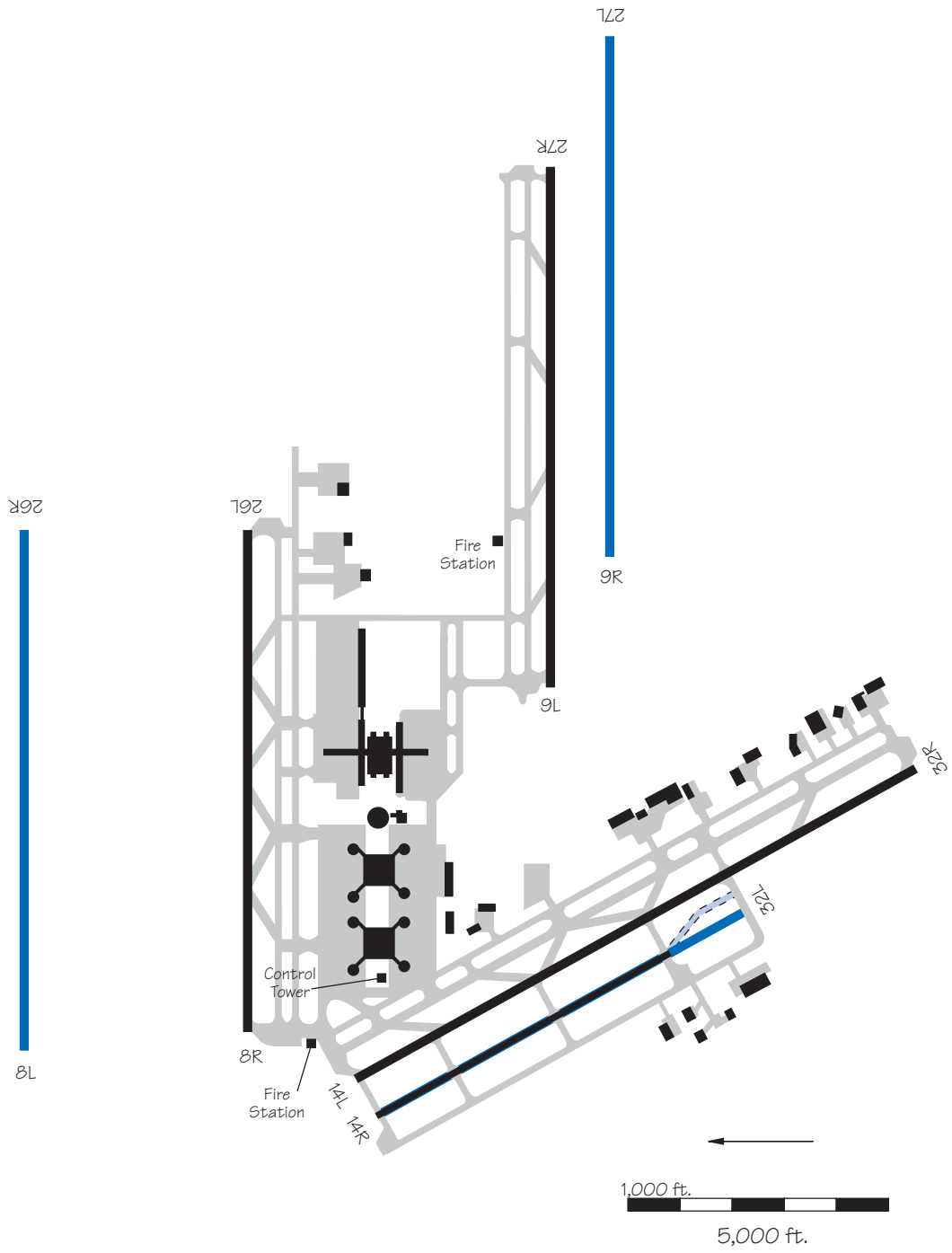
IAD — Washington Dulles International Airport

Two new parallel runways are under consideration. A north-south parallel, Runway 1W/19W, would be located 4,300 feet west of the existing parallels and north of Runway 12/30. Estimated opening date is 2009. This could provide triple independent parallel approaches, if they are approved. A second parallel Runway 12R/30L has been proposed for location 4,300 feet southwest of Runway 12/30. The runway is expected to be completed by 2010.

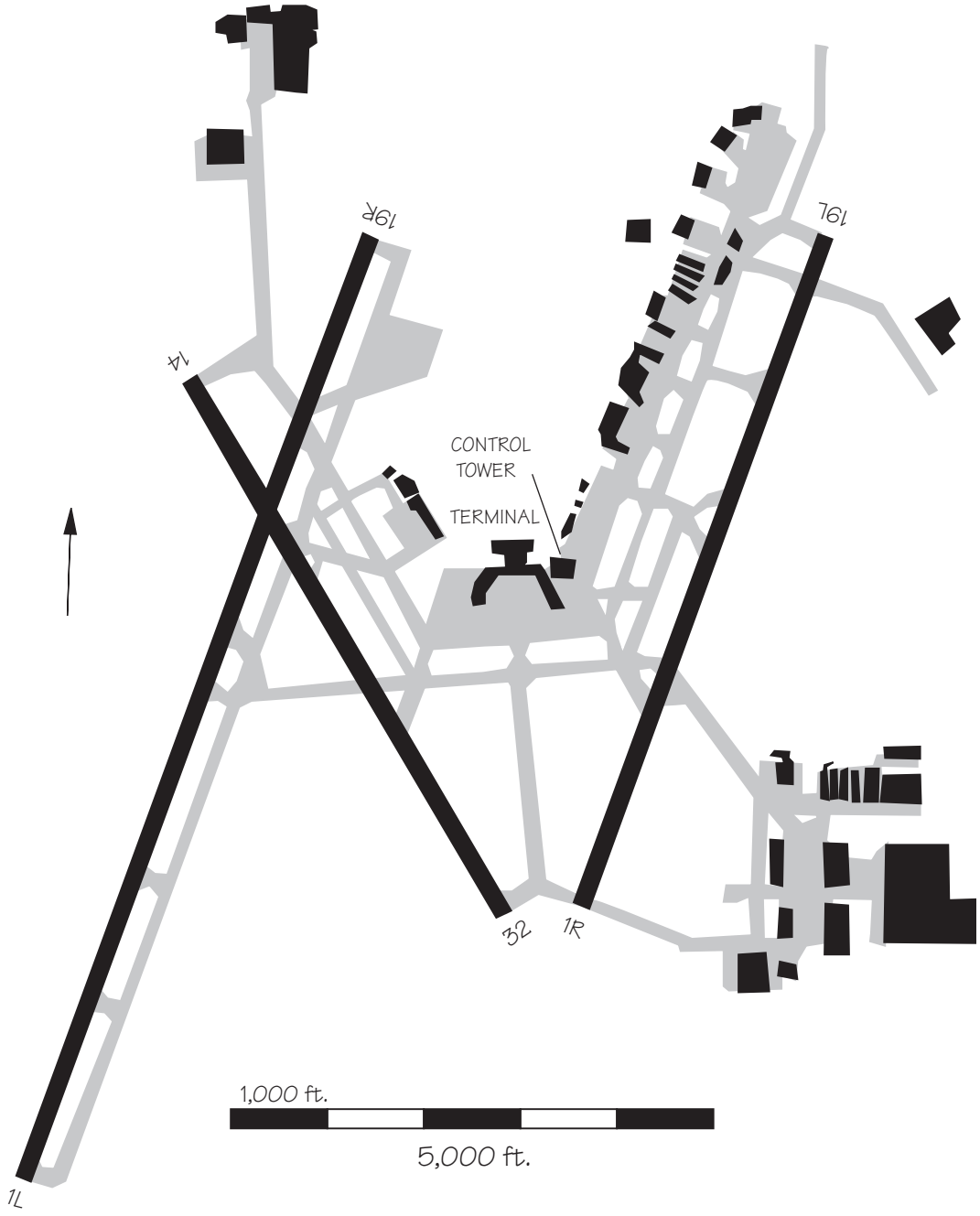


IAH — George Bush International Airport

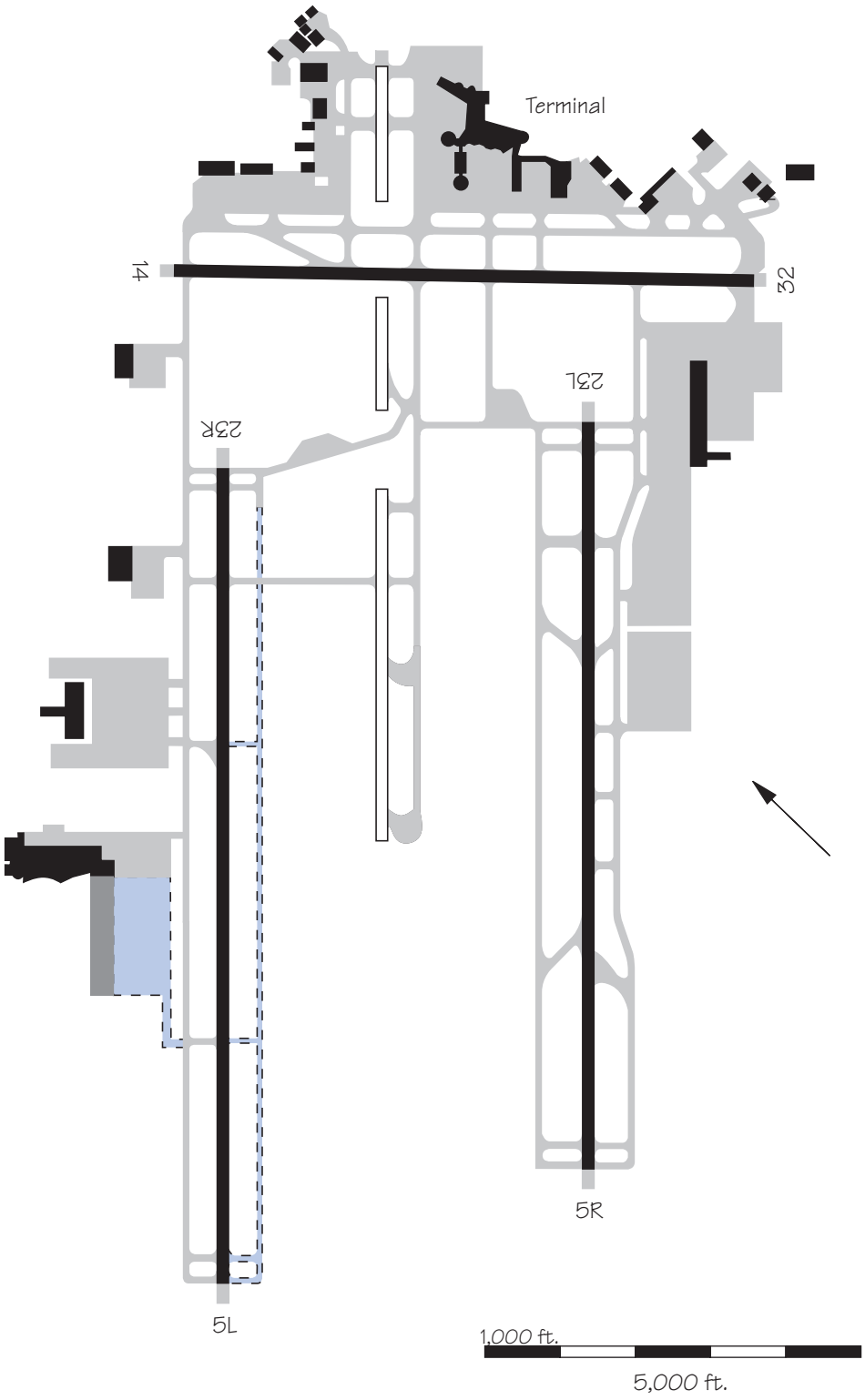
An $8 million 2,000-foot extension to Runway 14R/32L is planned for the year 2000. A new Runway 8L/26R is planned to be parallel to, and north of, the existing Runway 8/26. Commissioning is tentatively scheduled for the year 2002. Runway 8L/26R, in conjunction with Runways 9/27 and 8/26, has the potential to support triple IFR approaches, if approved. Another new runway, parallel to and south of Runway 9/27, is also planned in the distant future. Construction is expected to cost $95 million for Runway 8L/26R.



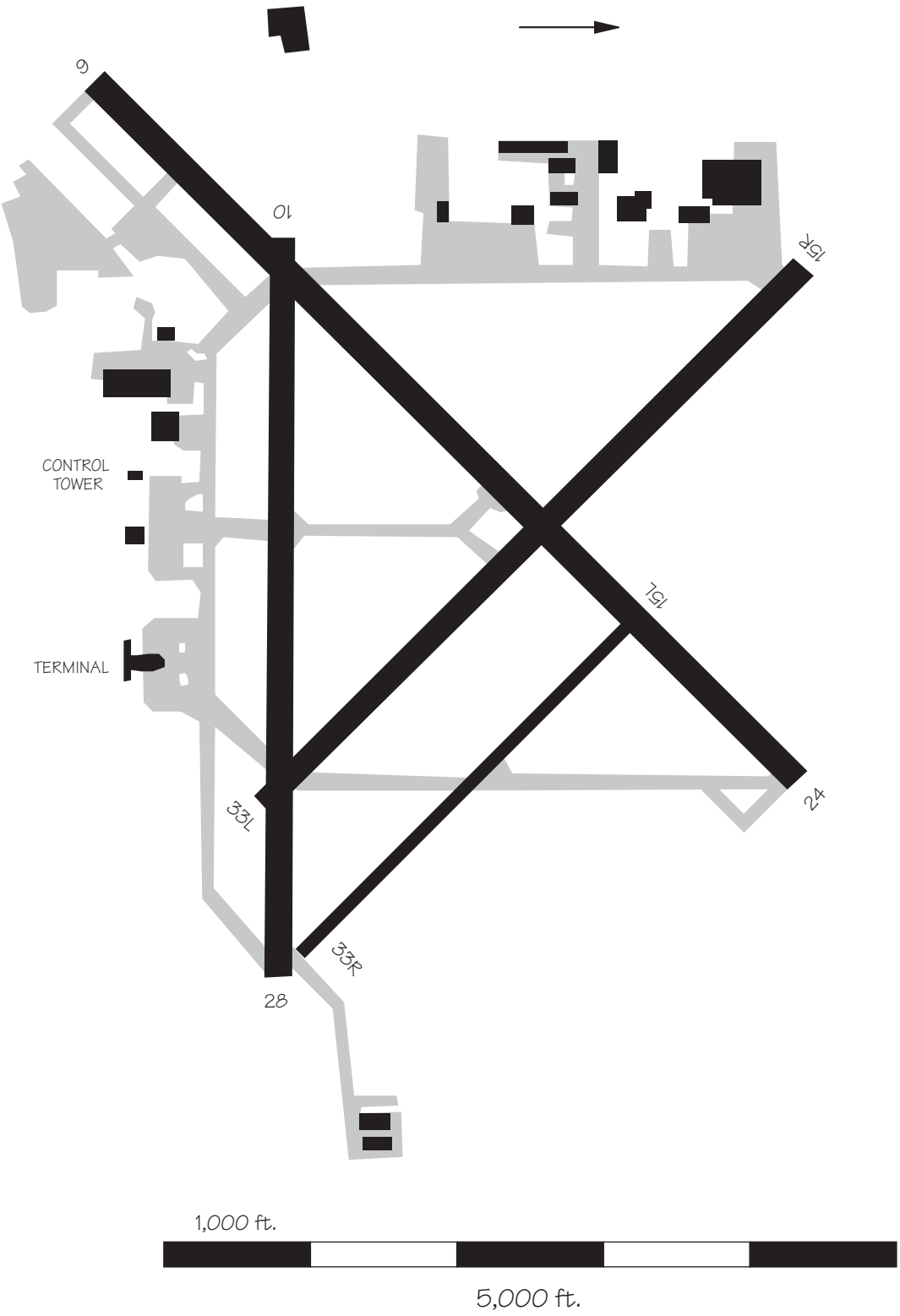
ICT — Wichita Mid-Continent Airport



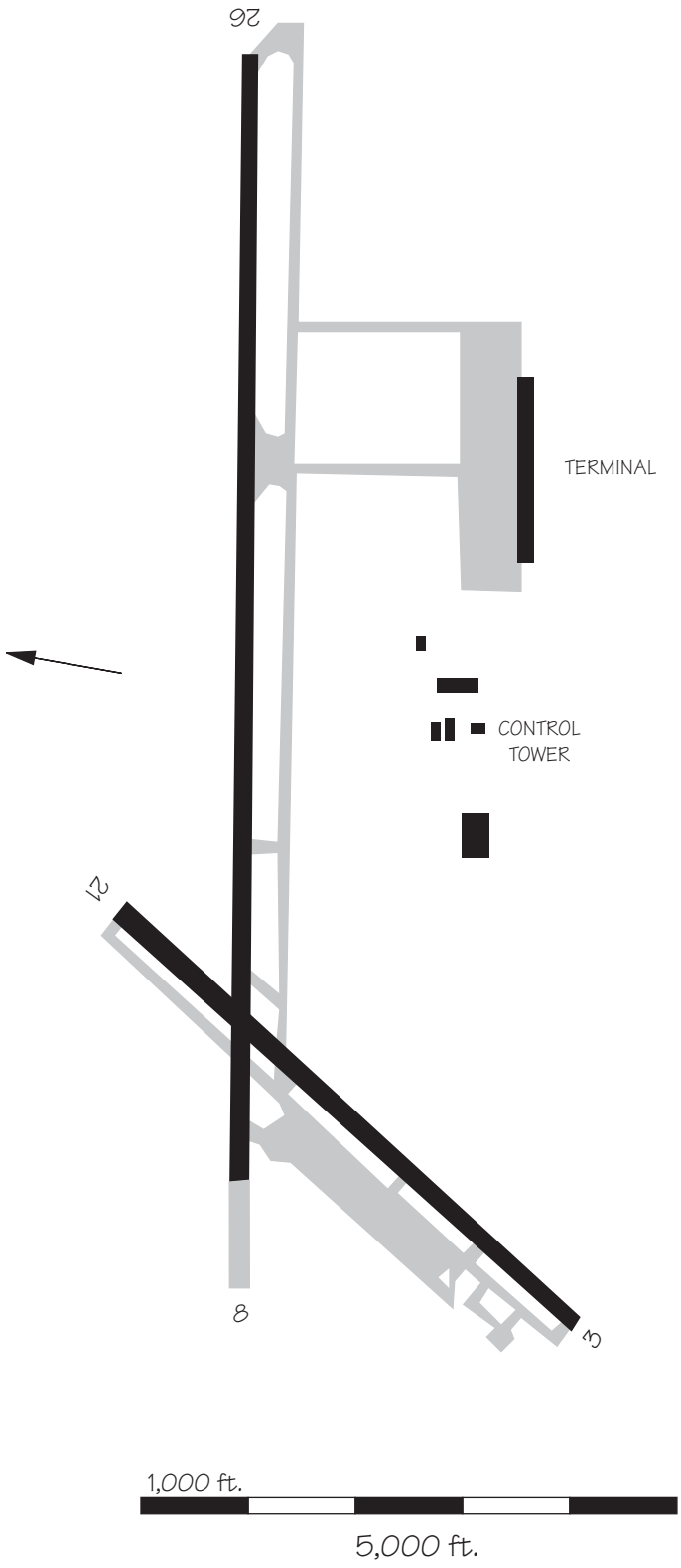
IND — Indianapolis International Airport



ISP — Islip Long Island Mac Arthur Airport

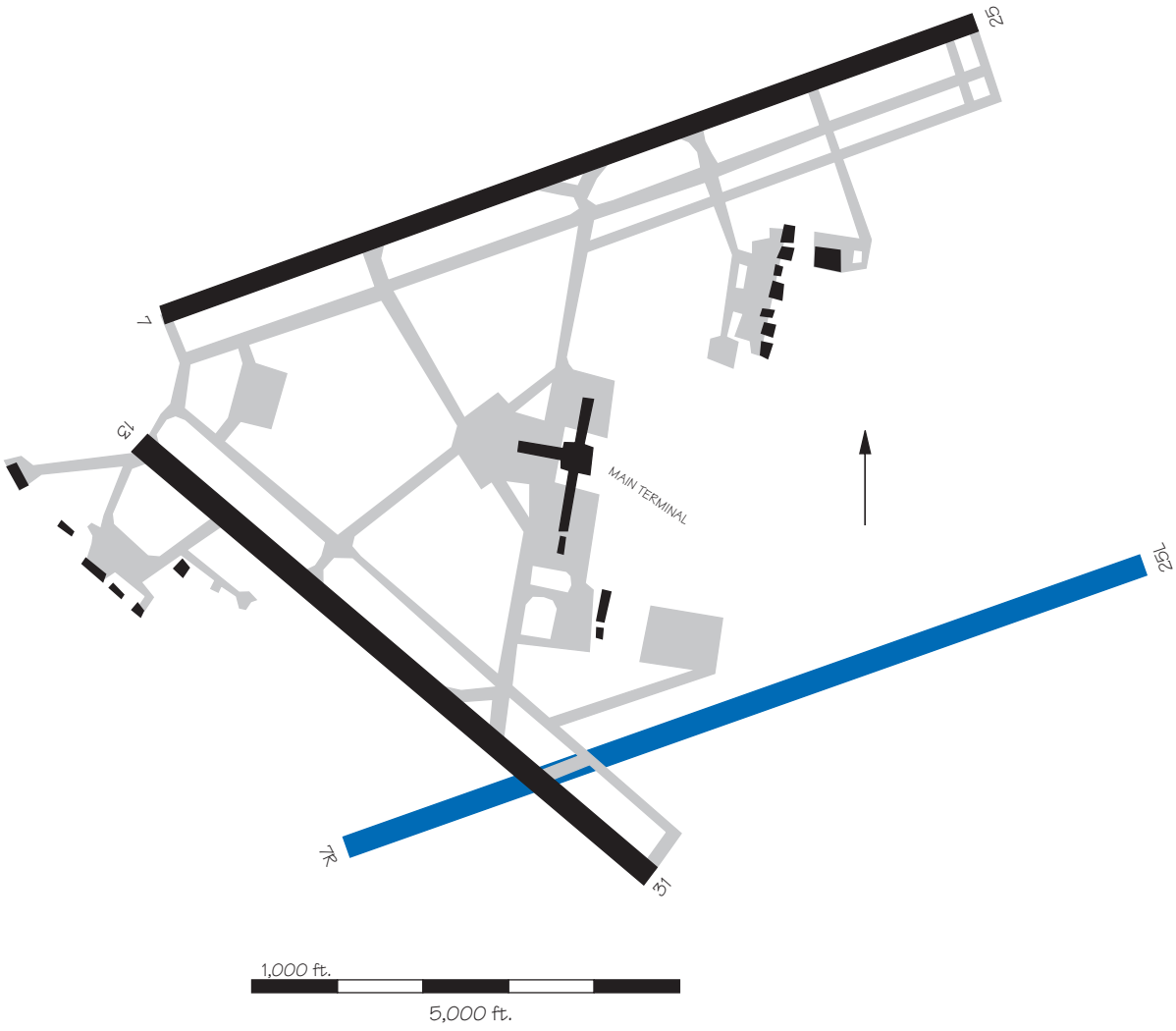


ITO — Hilo International Airport

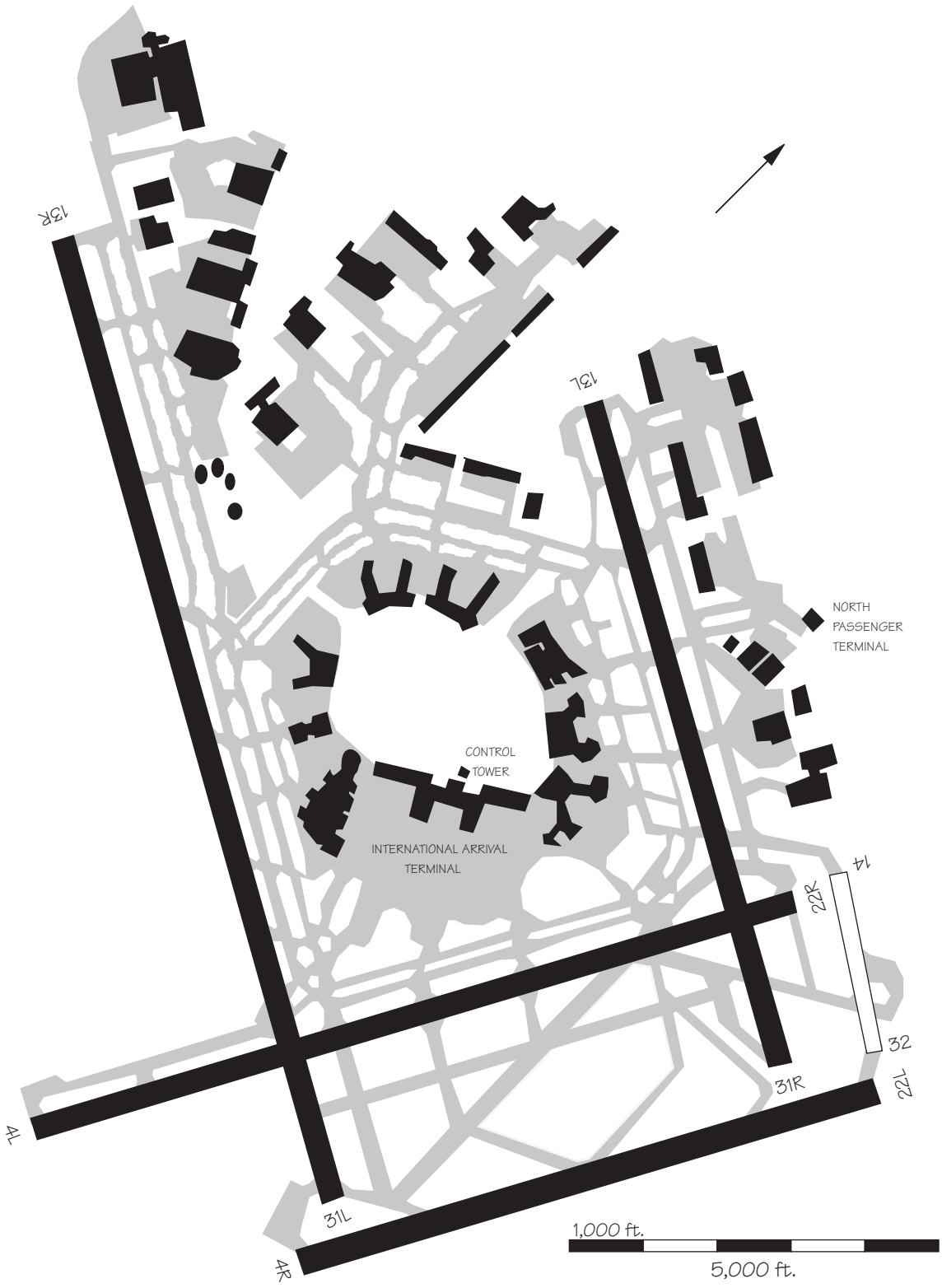


JAX — Jacksonville International Airport

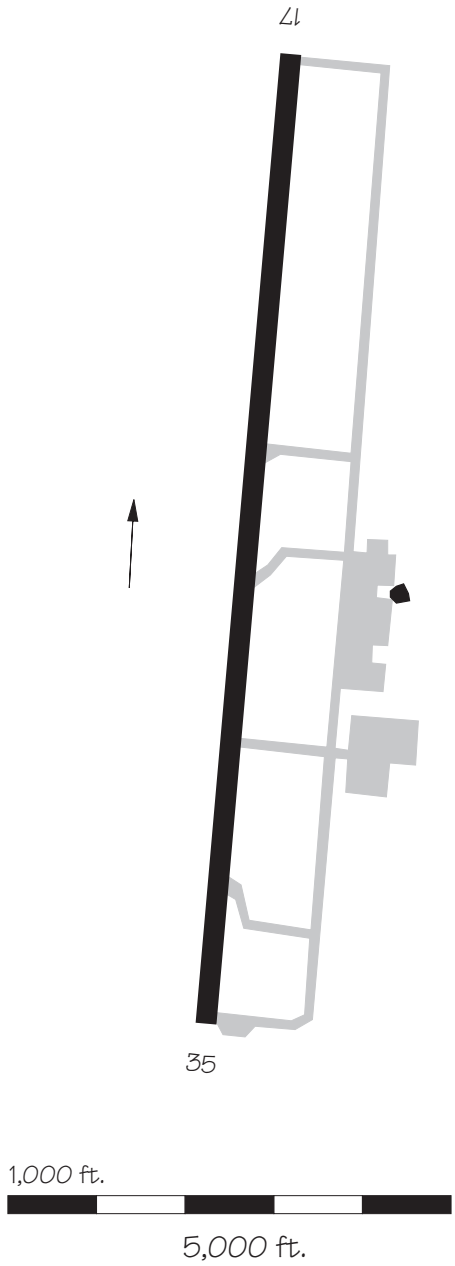
A new parallel Runway 7R/25L is being planned. It will be 6,500 feet south of the existing Runway 7/25, permitting independent parallel IFR operations and potentially doubling Jacksonville's hourly IFR arrival capacity. Construction is scheduled to begin in 2010, with completion expected in 2011. Estimated cost of construction is $50 million.



JFK — New York John F. Kennedy International Airport

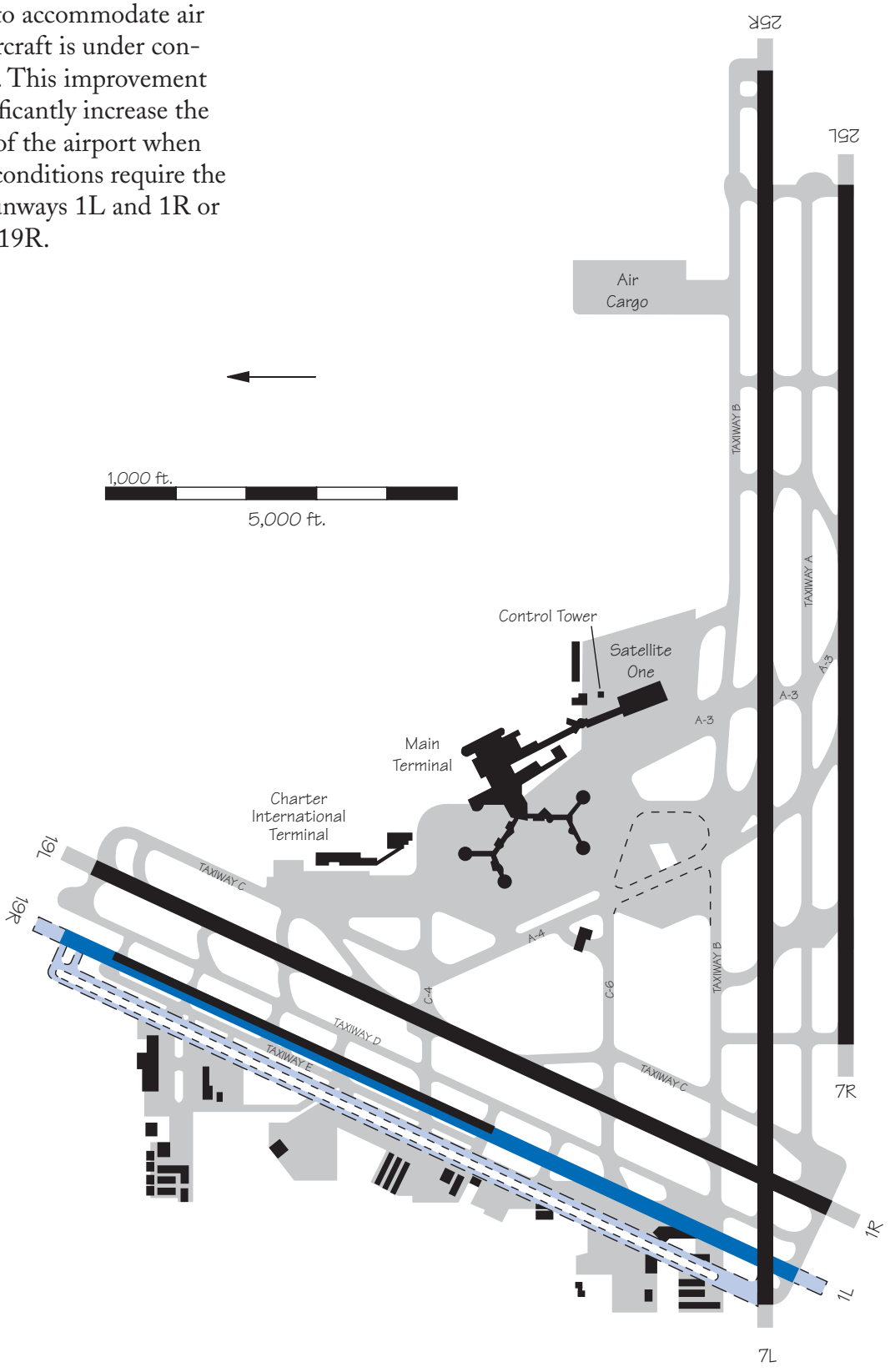


KOA — Kailua-Kona Keahole

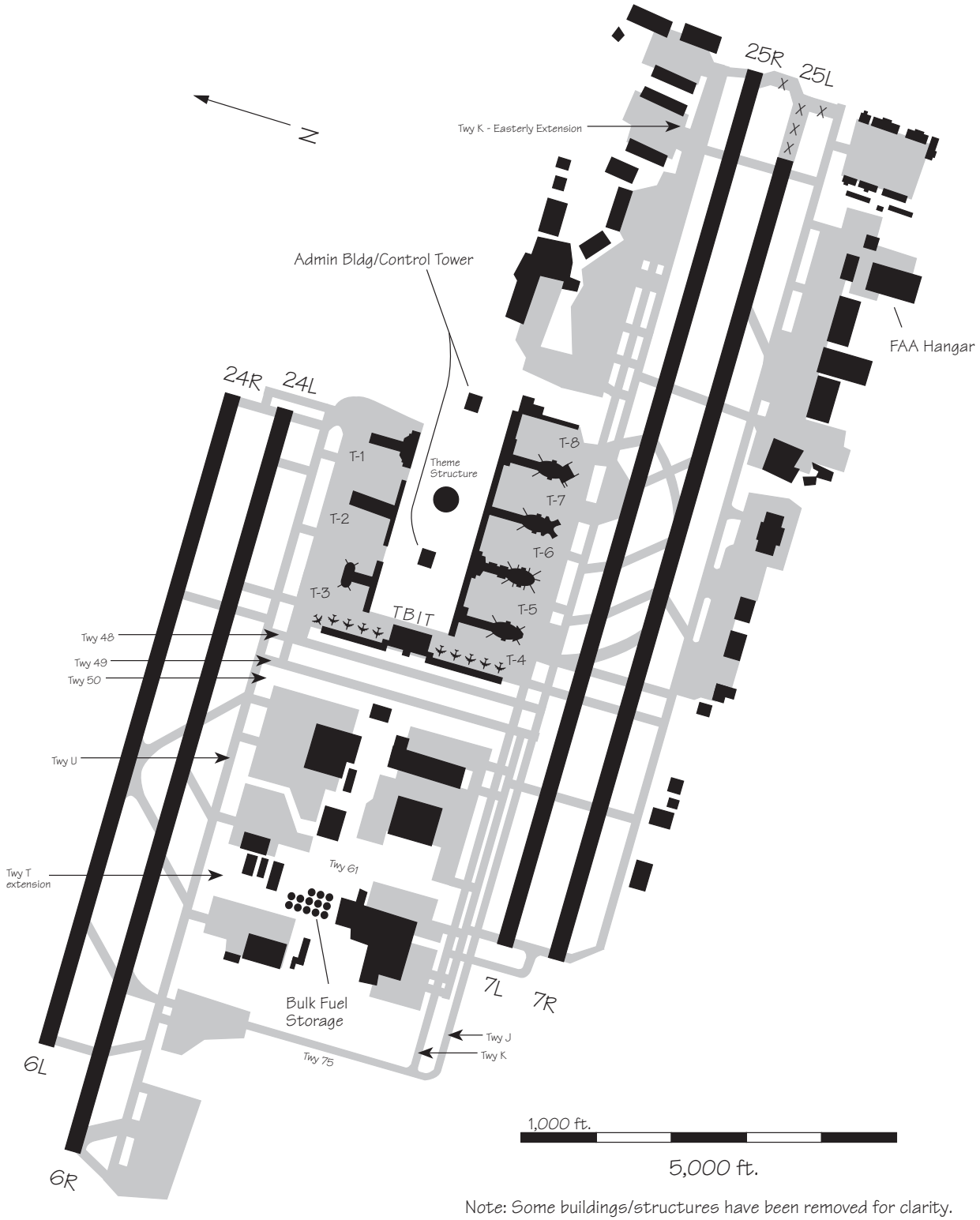


LAS — Las Vegas McCarran International Airport

An upgrade of Runway 1L/19R to accommodate air carrier aircraft is under construction. This improvement will significantly increase the capacity of the airport when weather conditions require the use of Runways 1L and 1R or 19L and 19R.



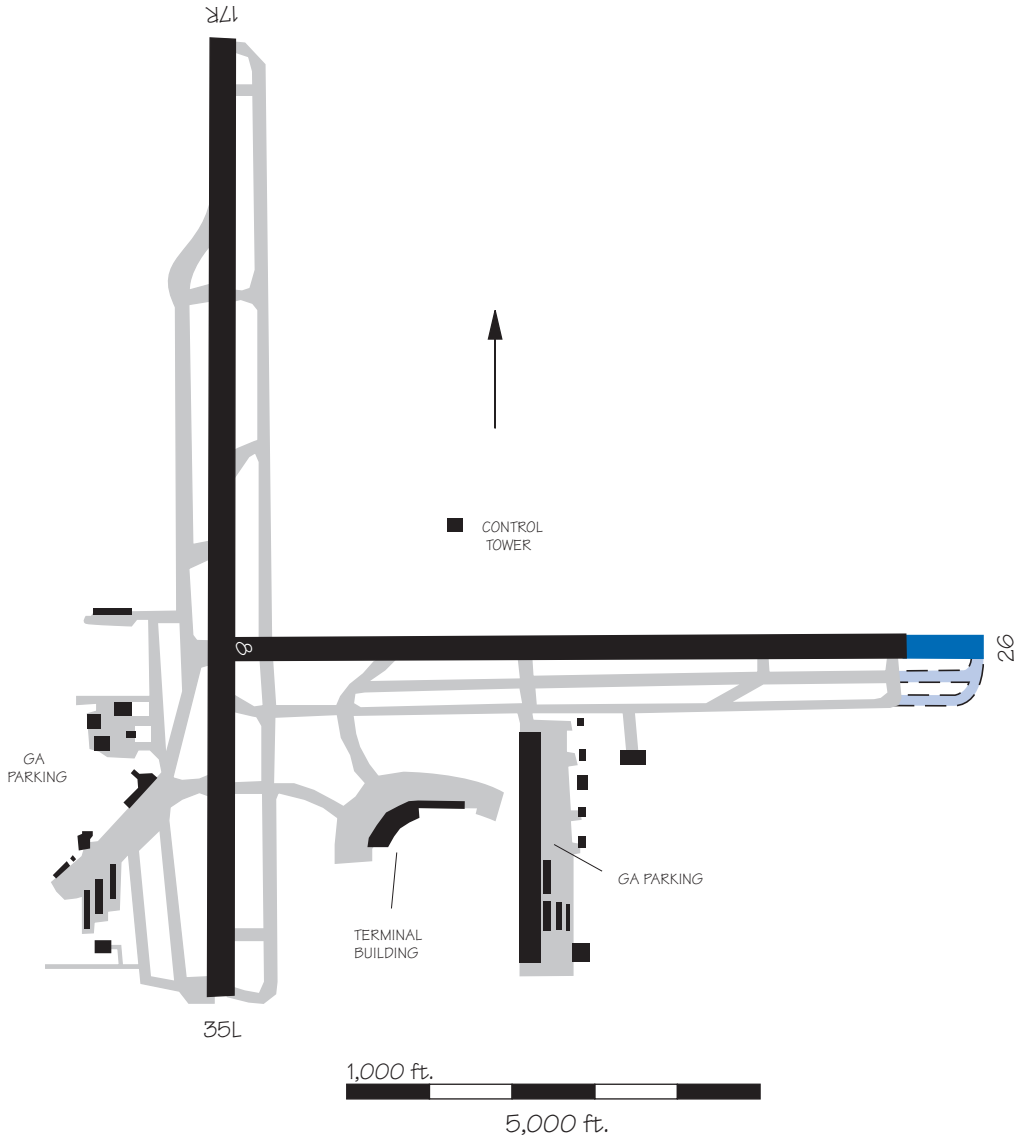
LAX — Los Angeles International Airport



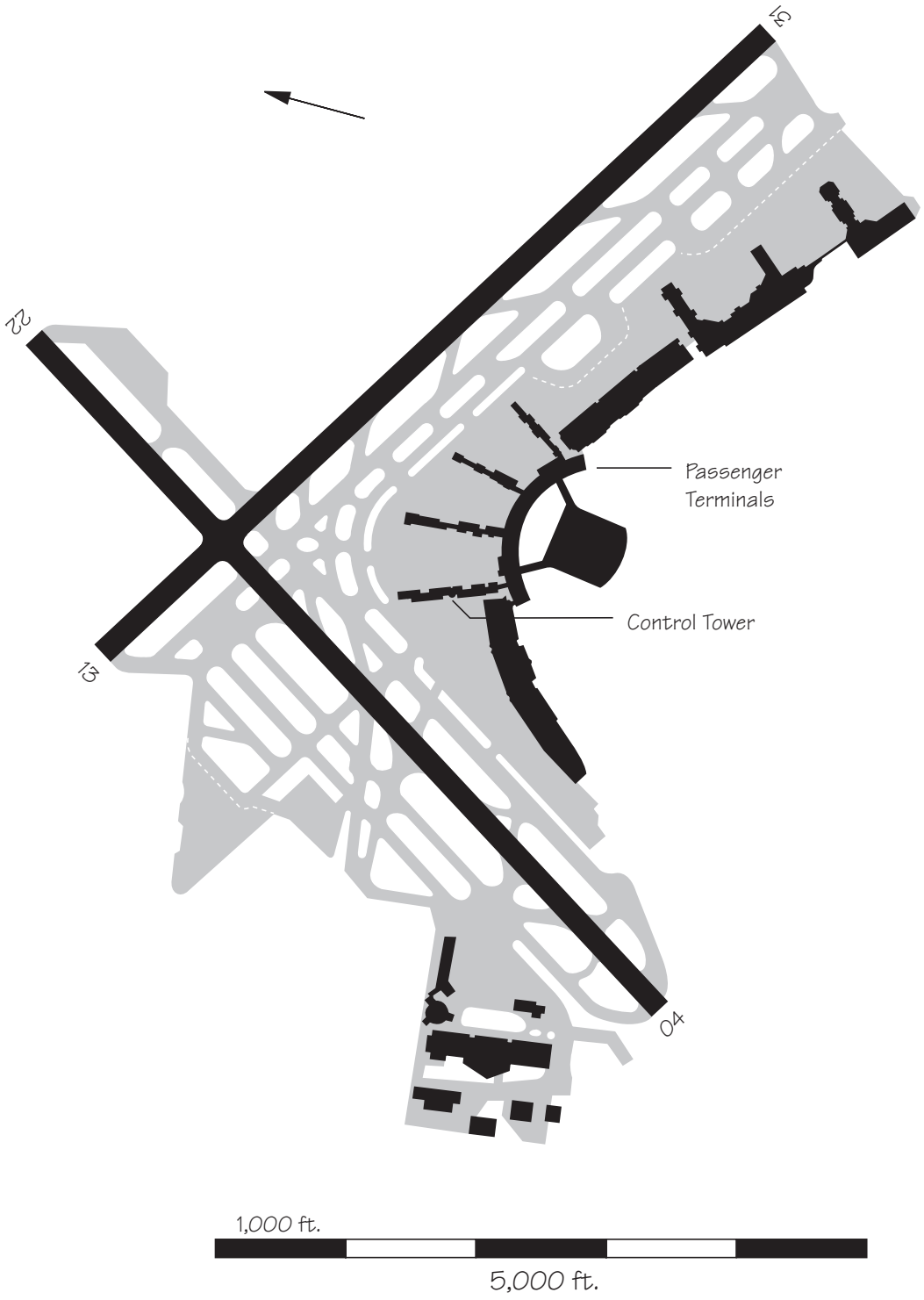
Note: Some buildings/structures have been removed for clarity.

LBB — Lubbock International Airport

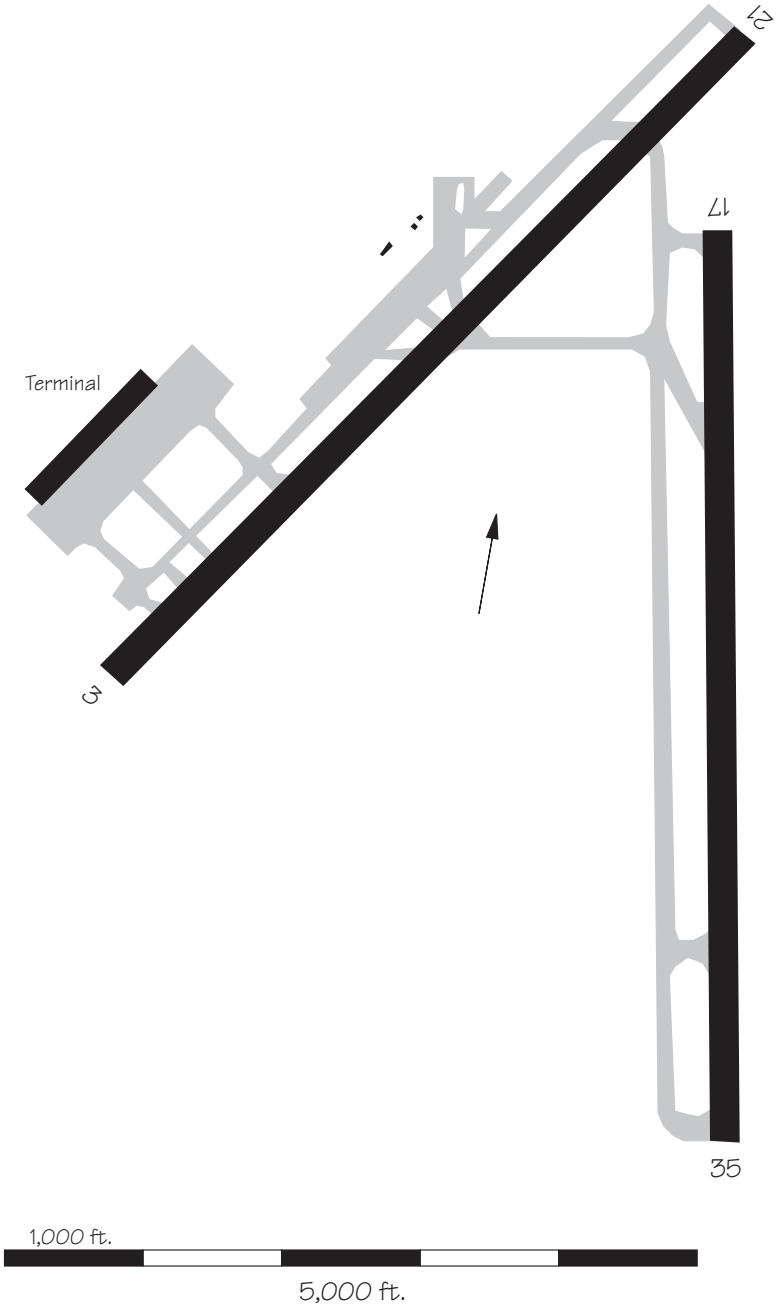
An extension to Runway 8/26 is planned. The start of construction is scheduled for 2004 and the estimated cost is $5 million. It is anticipated that the extension will be operational in 2005.



LGA — New York LaGuardia Airport

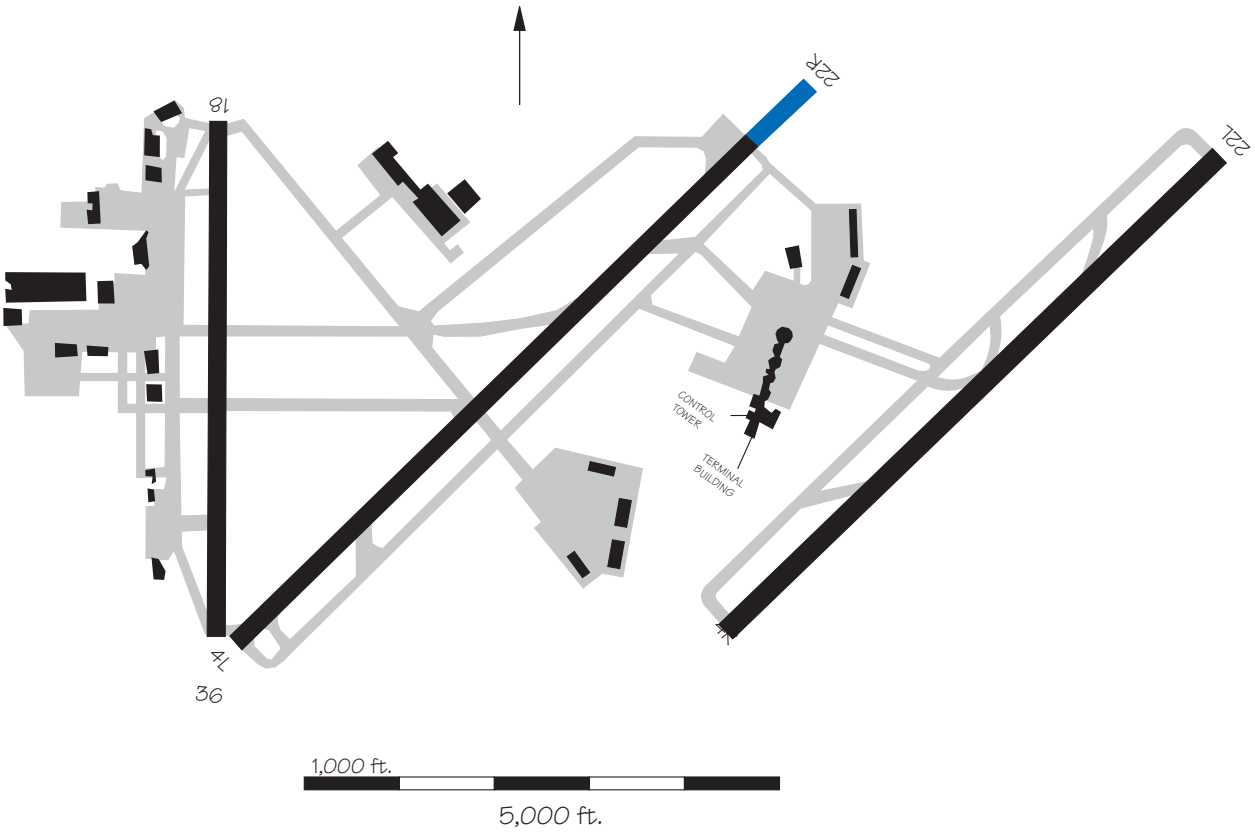


LIH — Lihue Airport



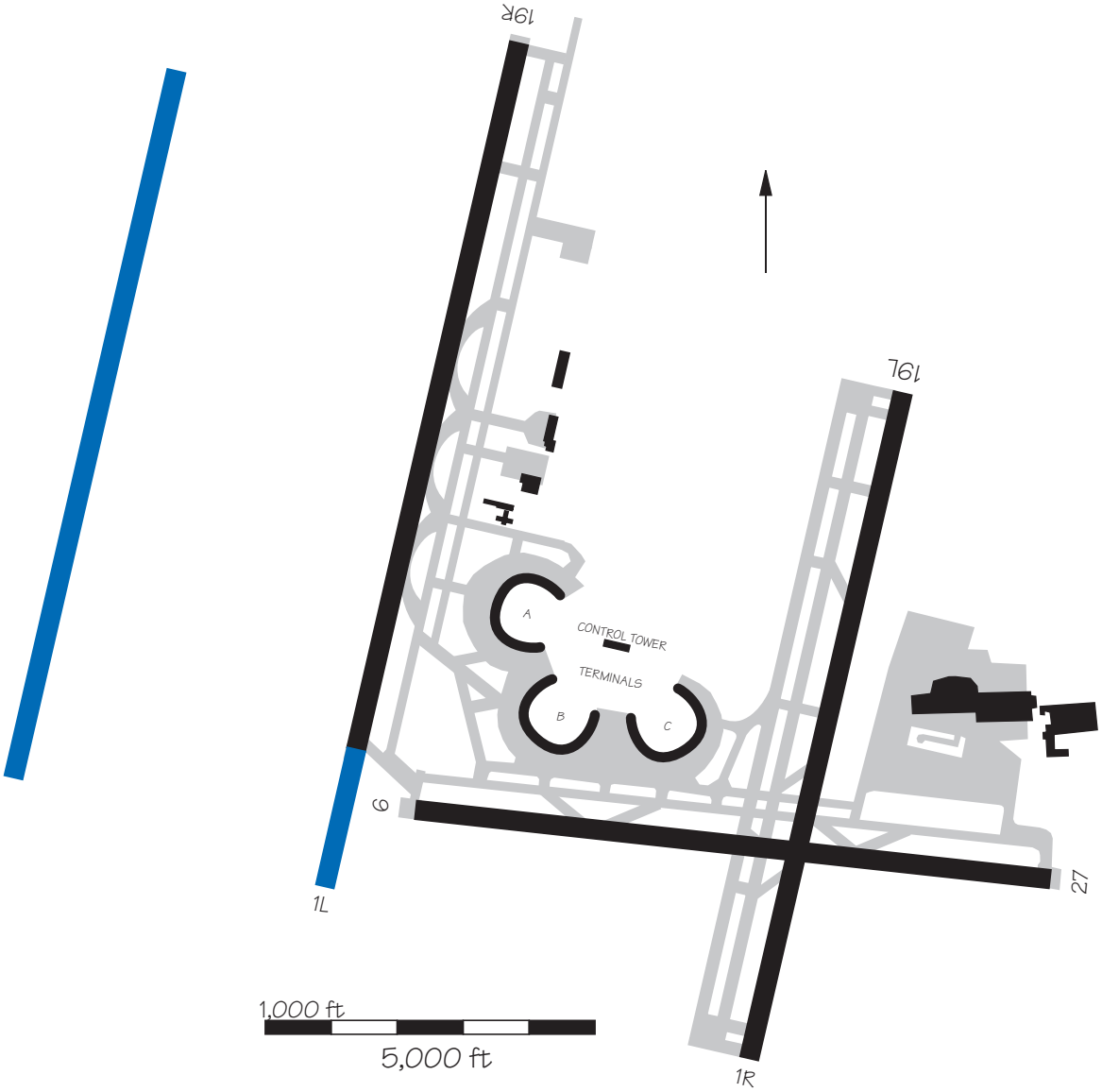
LIT — Little Rock Adams Field

An extension of Runway 4L/22R is underway, and should be operational in early 1998. The estimated cost of construction is $31 million.



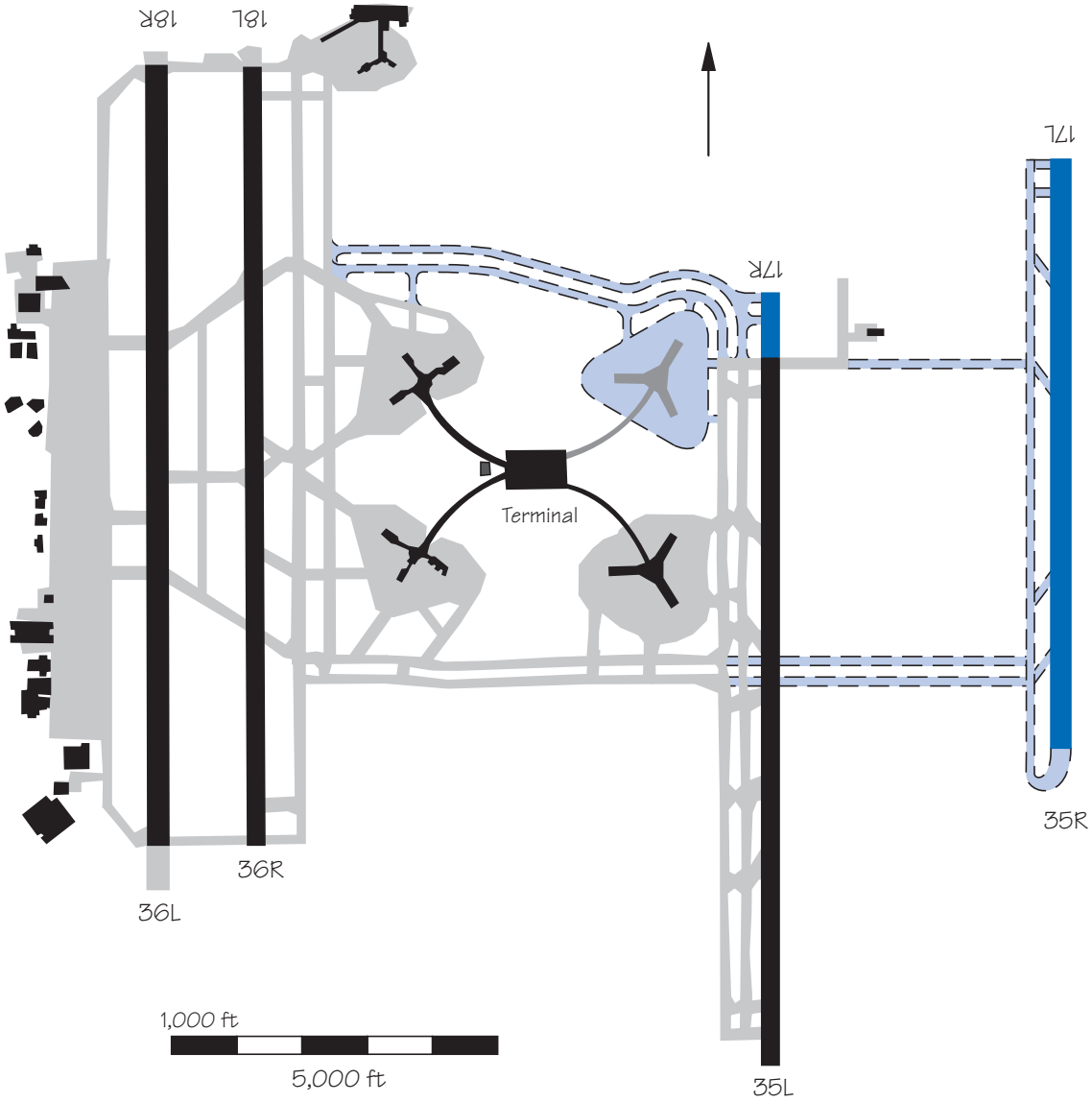
MCI — Kansas City International Airport

In accordance with the Airport Master Plan, an extension of Runway 1L/19R is currently planned. One additional parallel runway west of the existing north-south runway isbeing considered.

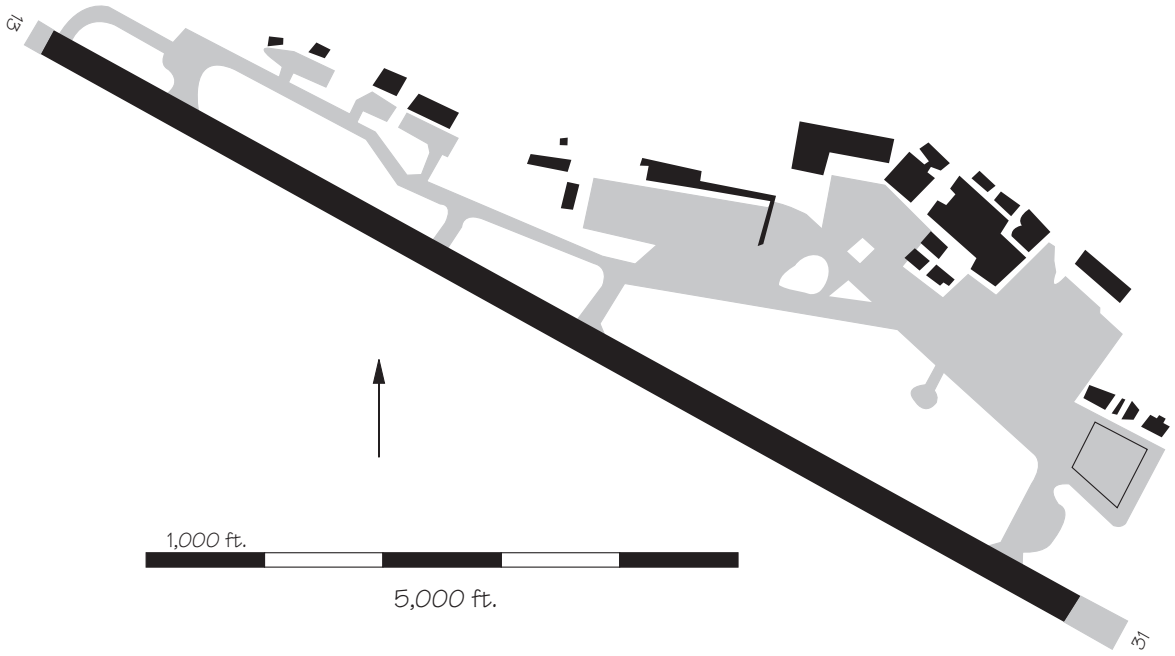


MCO — Orlando International Airport

Environmental mitigation for a fourth north-south runway, Runway 17L/35R, began October 10, 1990 and is ongoing. The runway is expected to be operational in 2002. It will be located 4,300 feet east of Runway 17R/35L. This may permit triple independent IFR operations. The estimated cost of construction of this runway is $137 million. Also planned is a 1,000 ft. extension to Runway 17R/35L.

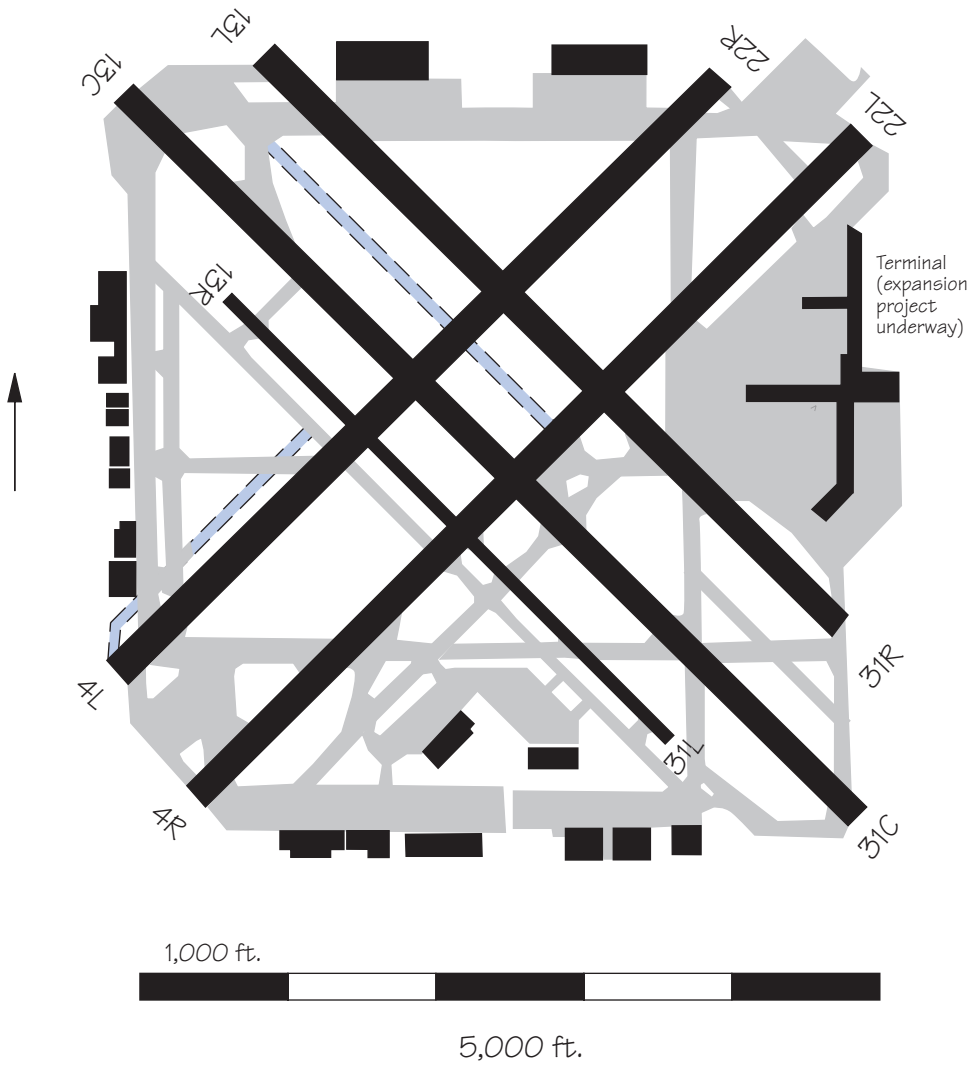


MDT — Harrisburg International Airport



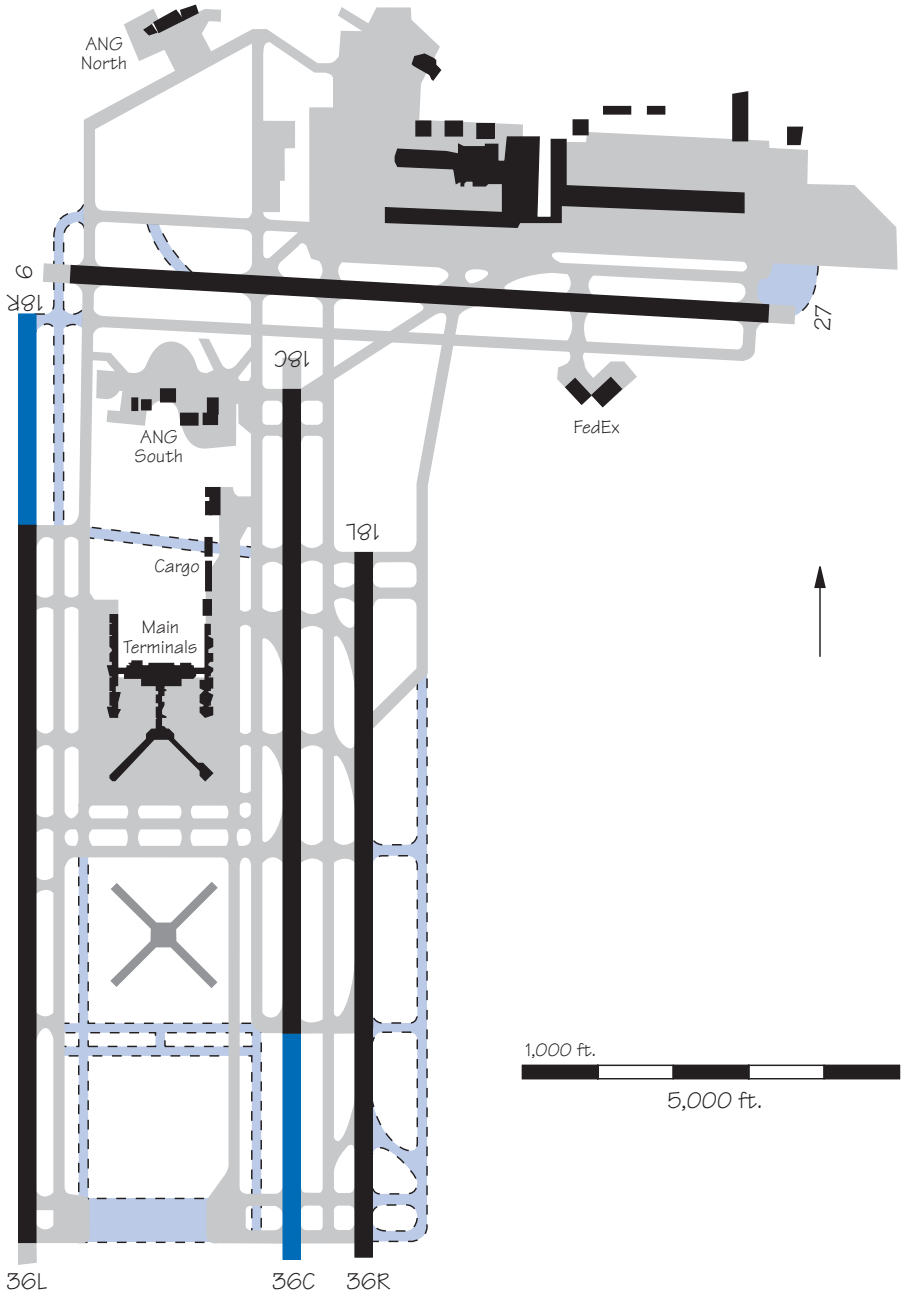
MDW — Chicago Midway Airport

Reconstruction of Runway 4R/22L is scheduled to start in 1997, with a projected cost of $32 million. The project is expected to be completed that same year.



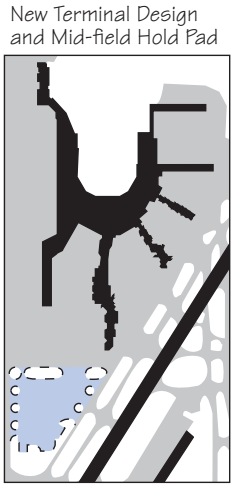
MEM — Memphis International Airport

A new north-south parallel Runway 18L/36R opened in mid 1997. It is located 927 feet east of Runway 18C/36C (old 18L/36R) and 4,327 feet from Runway 18R/36L, thus allowing independent parallel approaches. This increased hourly IFR arrival capacity by about 33 percent. A reconstruction and extension of Runway 18C/36C is under way. Construction is expected to be completed by 2000 at a cost of $103 million.



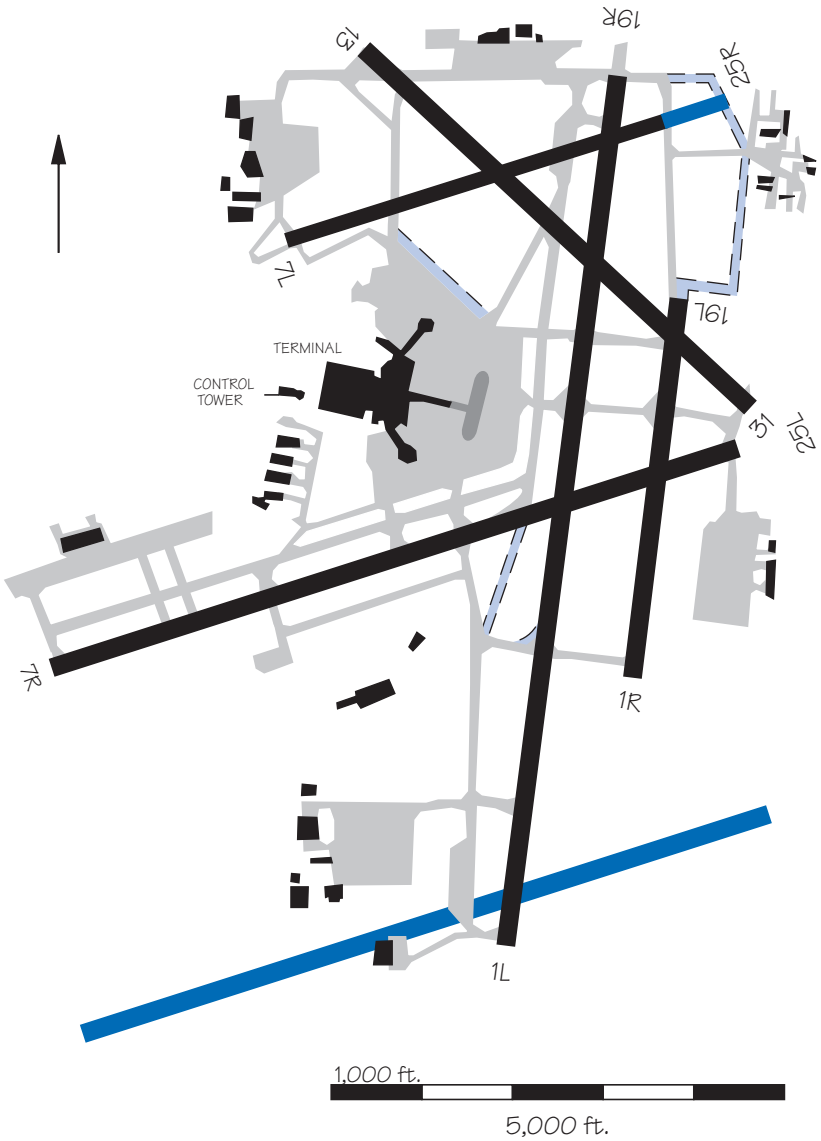
MIA — Miami International Airport

Construction of a new air carrier runway, 8,600 feet long and 800 feet north of existing Runway 9L/27R, is expected to start in 1999 and be completed by 2002. The estimated cost of construction is $180 million. An EIS is expected to be completed in late 1998.



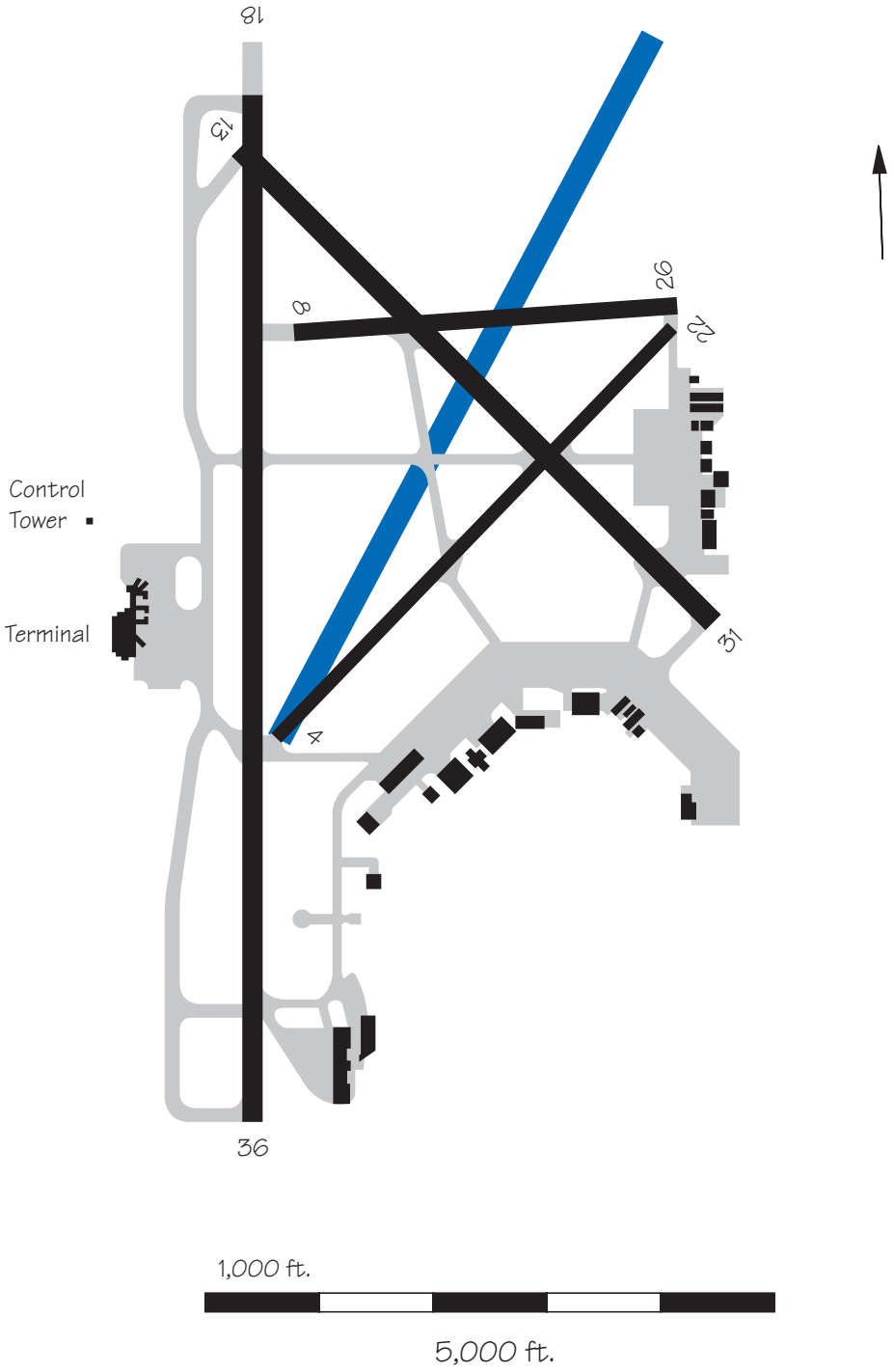
MKE — Milwaukee General Mitchell International Airport

A planned 700 feet extension to Runway 7L/25R is undergoing environmental review. Extension of this runway form 4,100 feet to 4,800 feet will accommodate commuter aircraft and delay the need for a third parallel runway until about the year 2015. Anticipated cost of the runway extension is approximately $1.9 million, with construction scheduled to begin in 1998.



MSN — Dane County Regional Airport

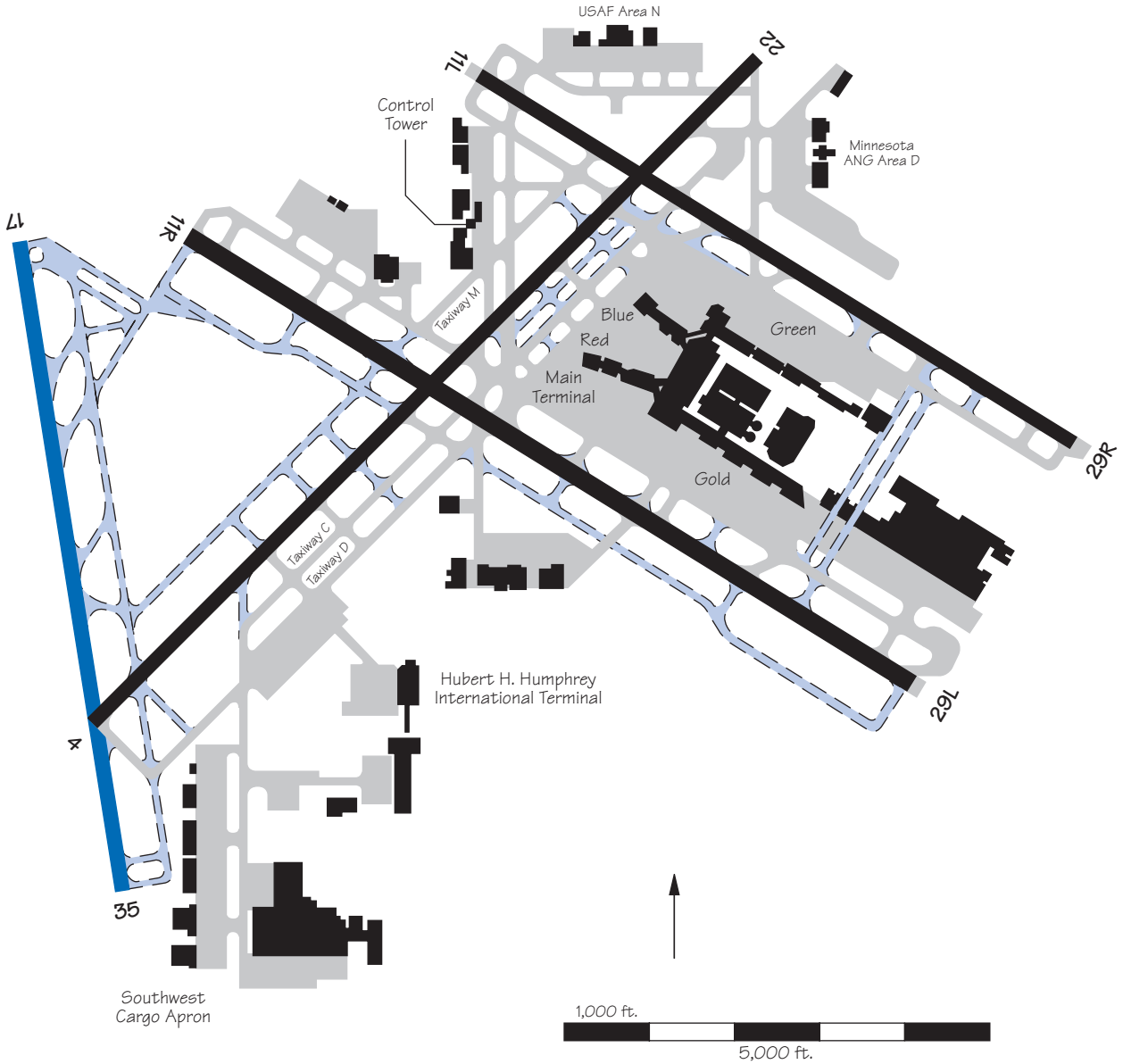
A new runway (3/21), is proposed to be built to provide additional operational capabilities to direct flights away from noise sensitive areas. This will be necessary when Runway 18/36 reaches its limit to run operations in reverse flow for noise abatement purposes during peak operating hours. Runway 3/21 would replace Runway 4/22. It is not feasible to extend 4/22 to have the same operational capabilities desired of Runway 3/21. The estimated cost of construction is $15 million. An EIS is underway.



MSP — Minneapolis-St. Paul International Airport

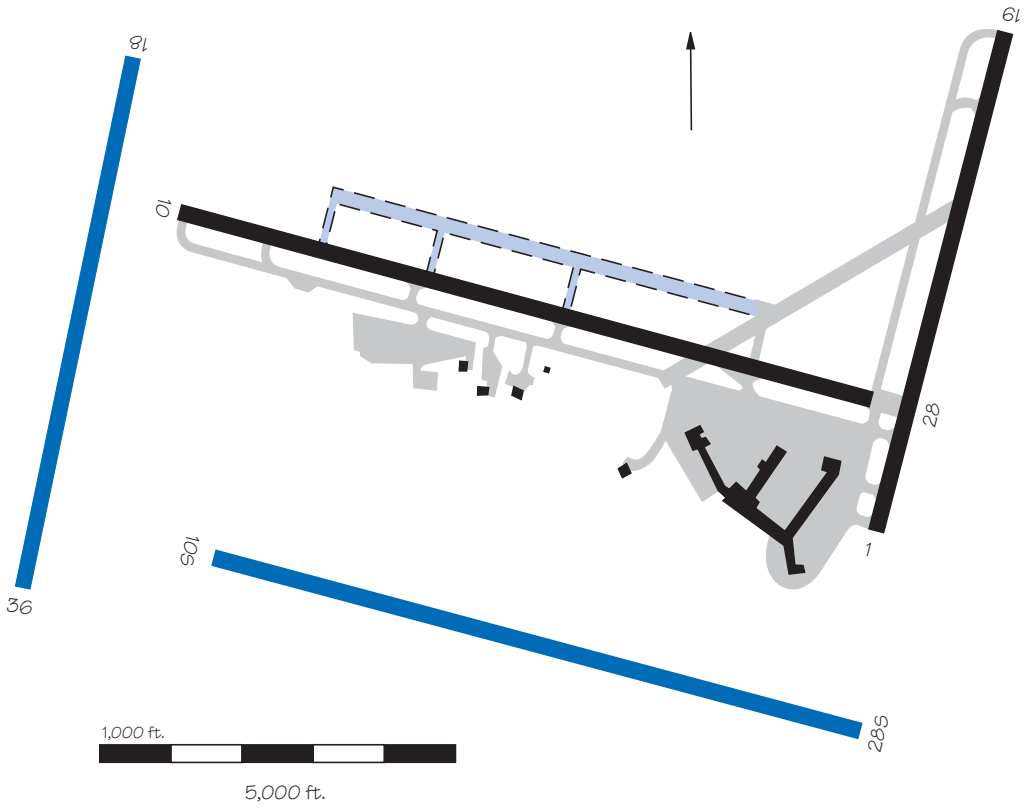
Construction of the proposed 8,000 feet Runway 17/35, at a cost of $175 million, will reduce the projected 2020 annual delay cost from $66 million to $38 million.

The runway is expected to be operational in 2003 and will be used primarily for departures to the south and arrivals to the north.



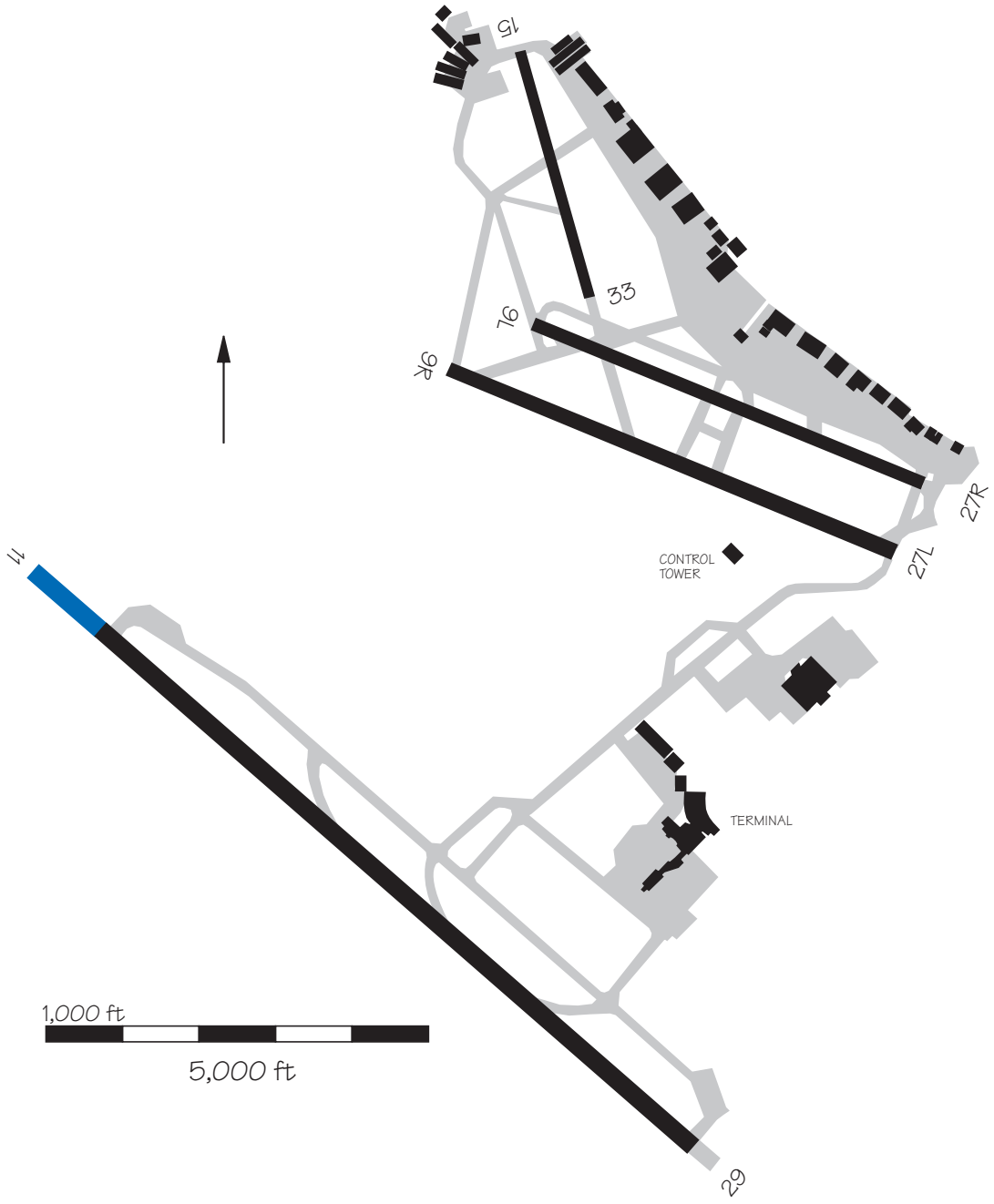
MSY — New Orleans International Airport

A new north-south runway, Runway 18/36, is planned. This new runway will be near parallel to the existing Runway 1/19 and will be located west of the threshold of Runway 10, approximately 11,000 feet away from Runway 1/19. This will allow independent parallel operations, doubling IFR hourly arrival capacity. Pending environmental approvals, construction could begin as early as 2000 and be completed in 2005, at an approximate cost of $400 million. As an alternative to this north-south runway, the airport is considering the construction of an east/west parallel runway, Runway 10S/28S, 4,300 feet to the south of existing Runway 10/28, off of present airport property. The airport is also constructing a north parallel east/west taxiway approximately 800 feet north of and parallel to the existing Runway 10/28, which could later be converted into a 6,000-foot commuter and general aviation runway. The estimated cost of construction is $34 million, and the expected operational date is late 1999.



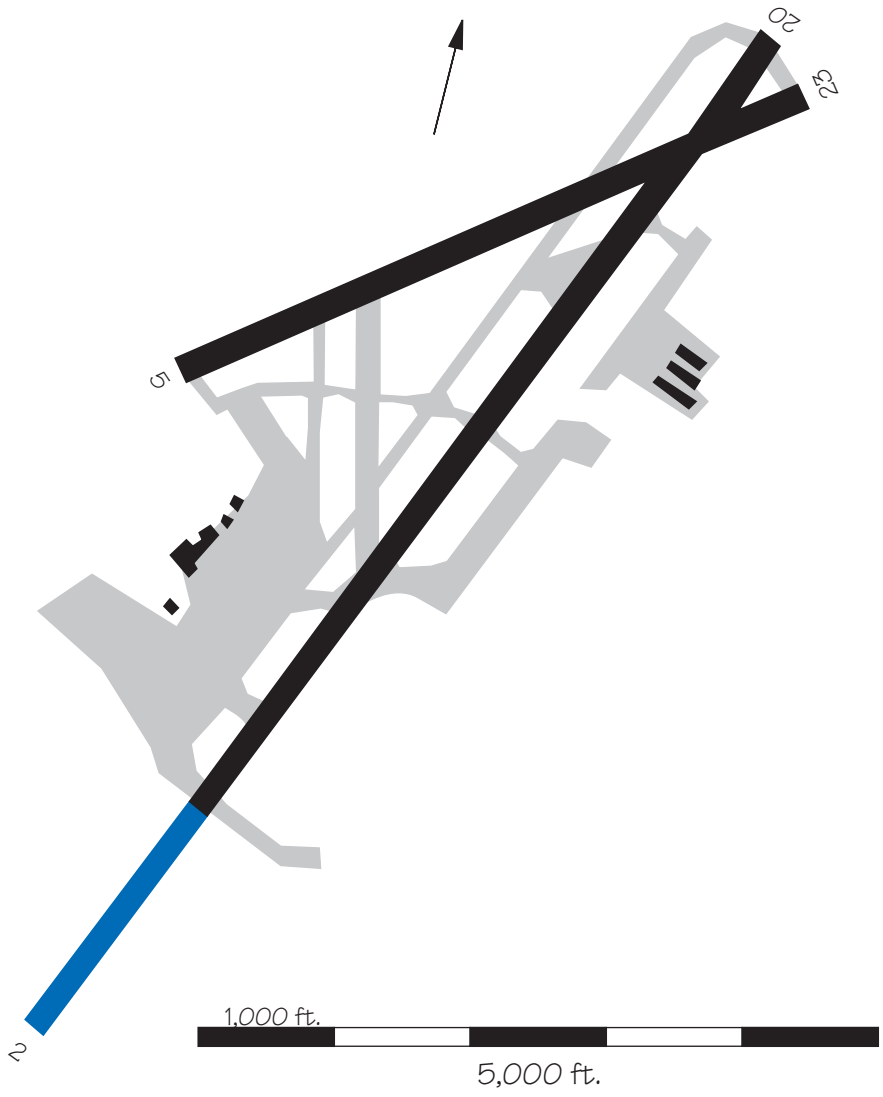
OAK — Metropolitan Oakland International Airport

An extension to Runway 11/29 is planned for ultimate development.



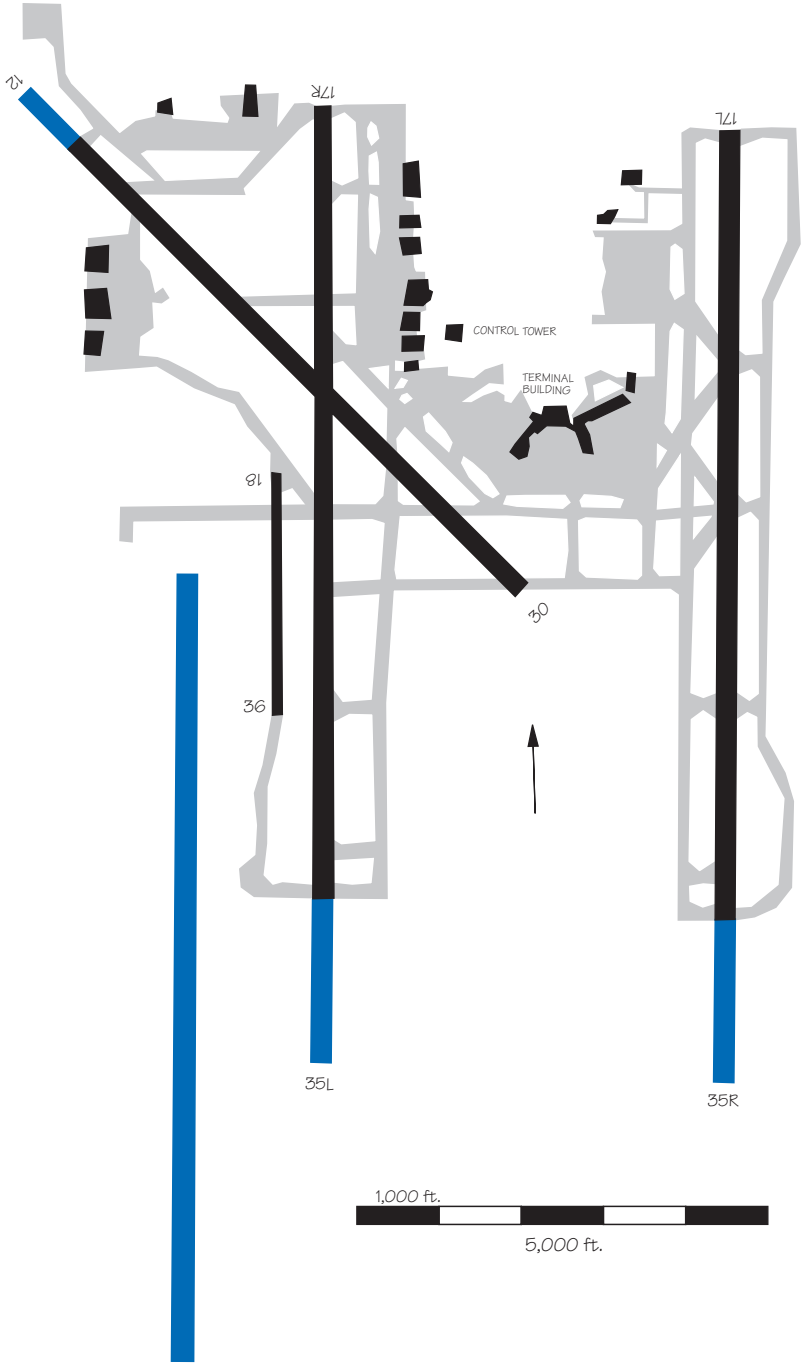
OGG — Kahului Airport

An extension of Runway 2/20 is being planned. An EIS is underway, and the extension could be operational by mid-1998, at a cost of $40 million.



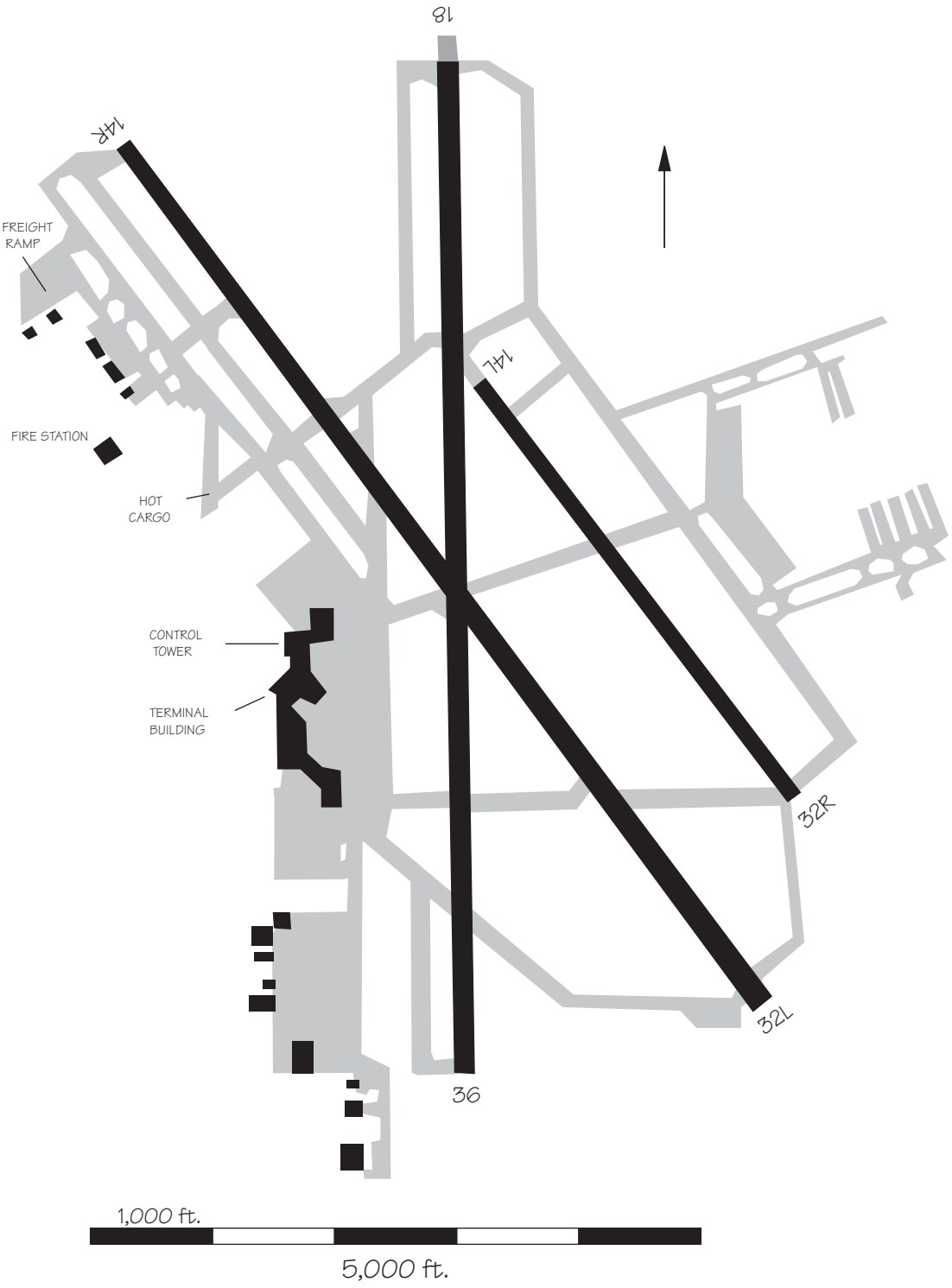
OKC — Oklahoma City Will Rogers World Airport

Construction of a new west parallel runway 1,600 feet west of Runway 17R/35L is planned to be operational by 2004. Estimated cost of construction is $13 million. Extensions to both north/south runways, Runways 17L/35R and 17R/35L, are also planned. The estimated cost of extending the runways is $8 million each. Construction of the extension to Runway 17R/35L is expected to start in 2001 and be completed by 2014. A 1,200 foot extension to the northwest of Runway 13/31 is planned as well. Construction is stated to begin in 2003, be completed in 2005, and cost $5 million.

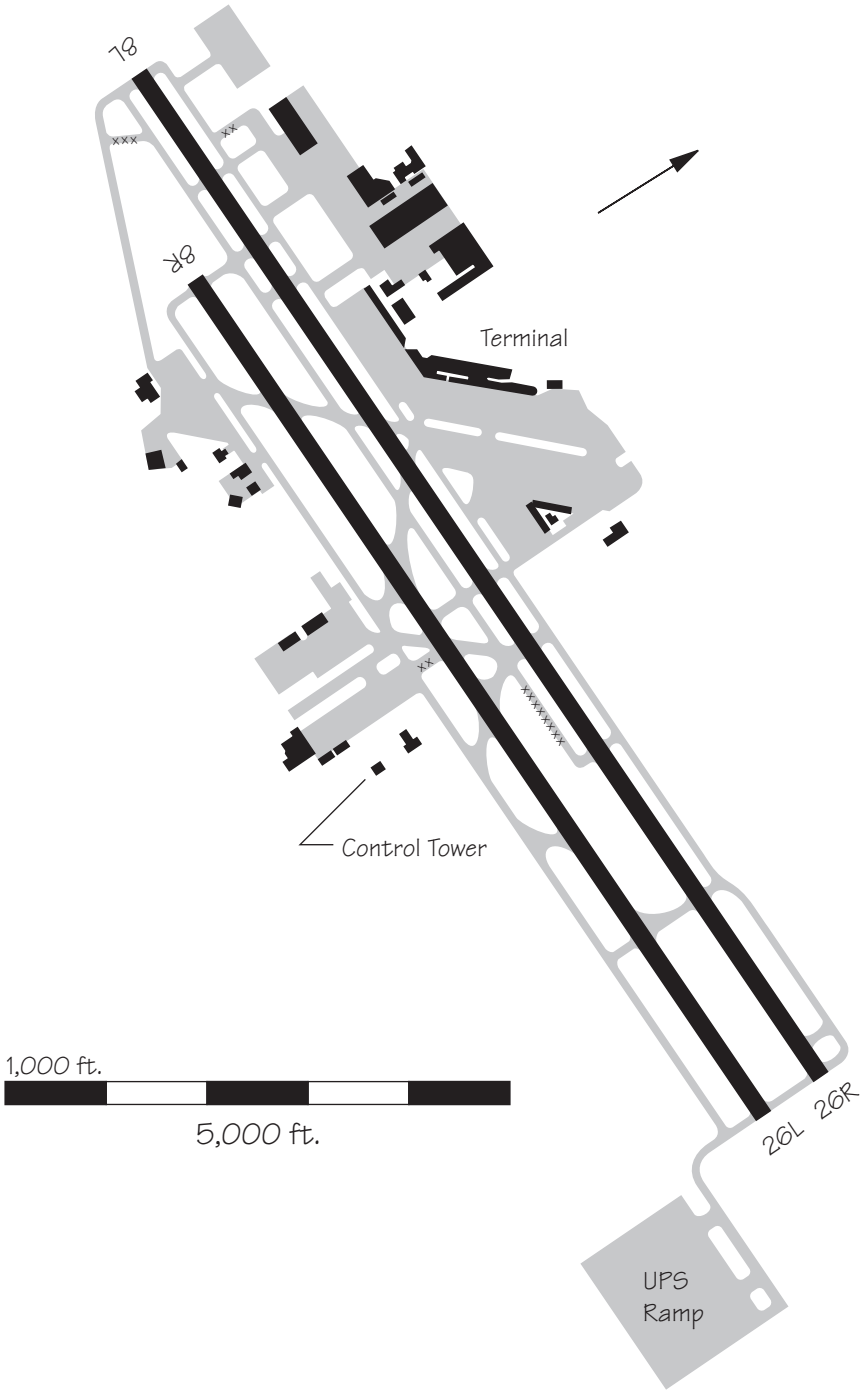


OMA — Omaha Eppley Airfield

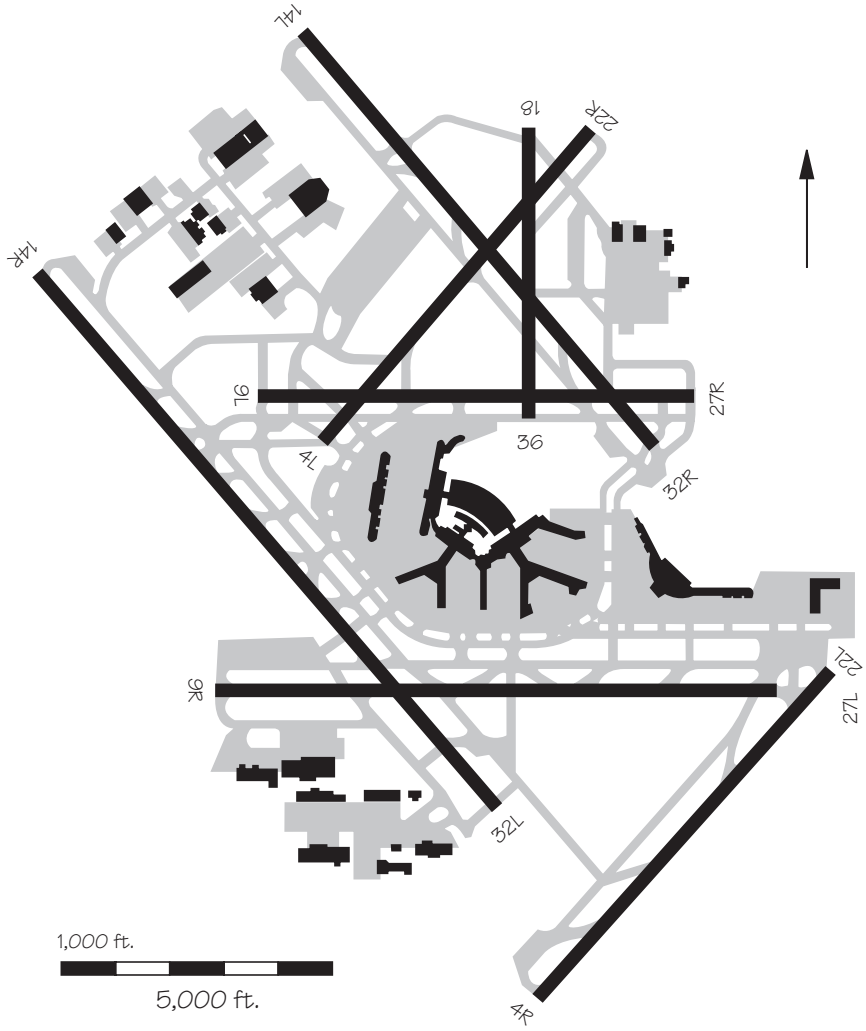
An extension to Runway 14R/32L was completed (1,000 feet) in 1996.



ONT — Ontario International Airport

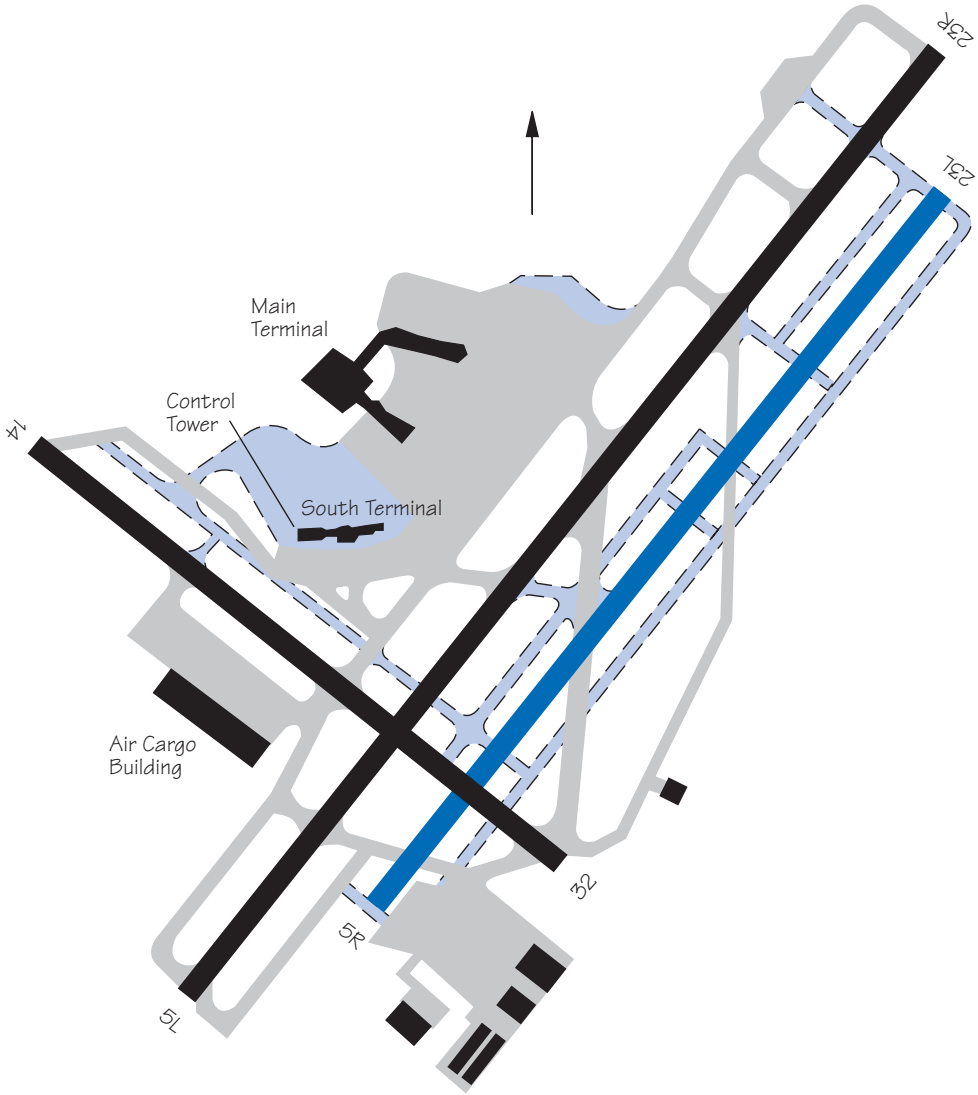


ORD — Chicago O'Hare International Airport



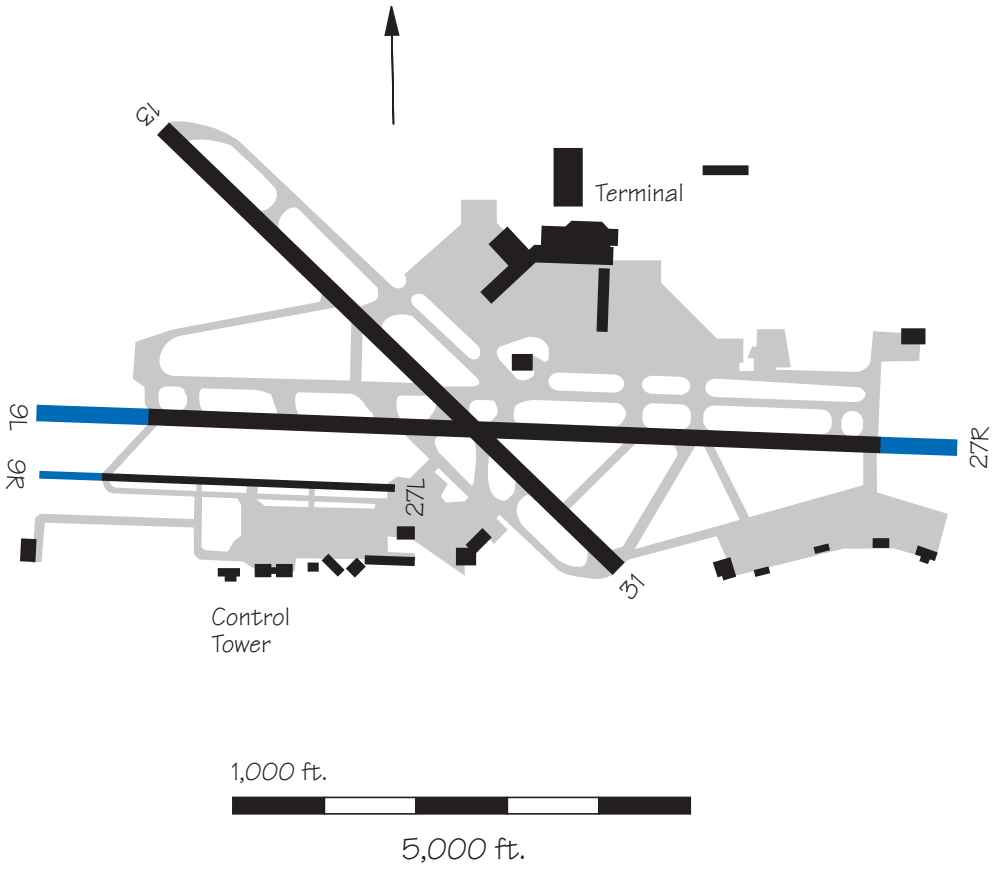
ORF — Norfolk International Airport

A new air carrier runway, Runway 5R/23L, was analyzed by the Eastern Virginia Capacity Design Team. A Master Plan Update is currently underway. The runway could be operational by 2005, at an estimated cost of $75 million, providing the airport can acquire the small amount of additional land required.

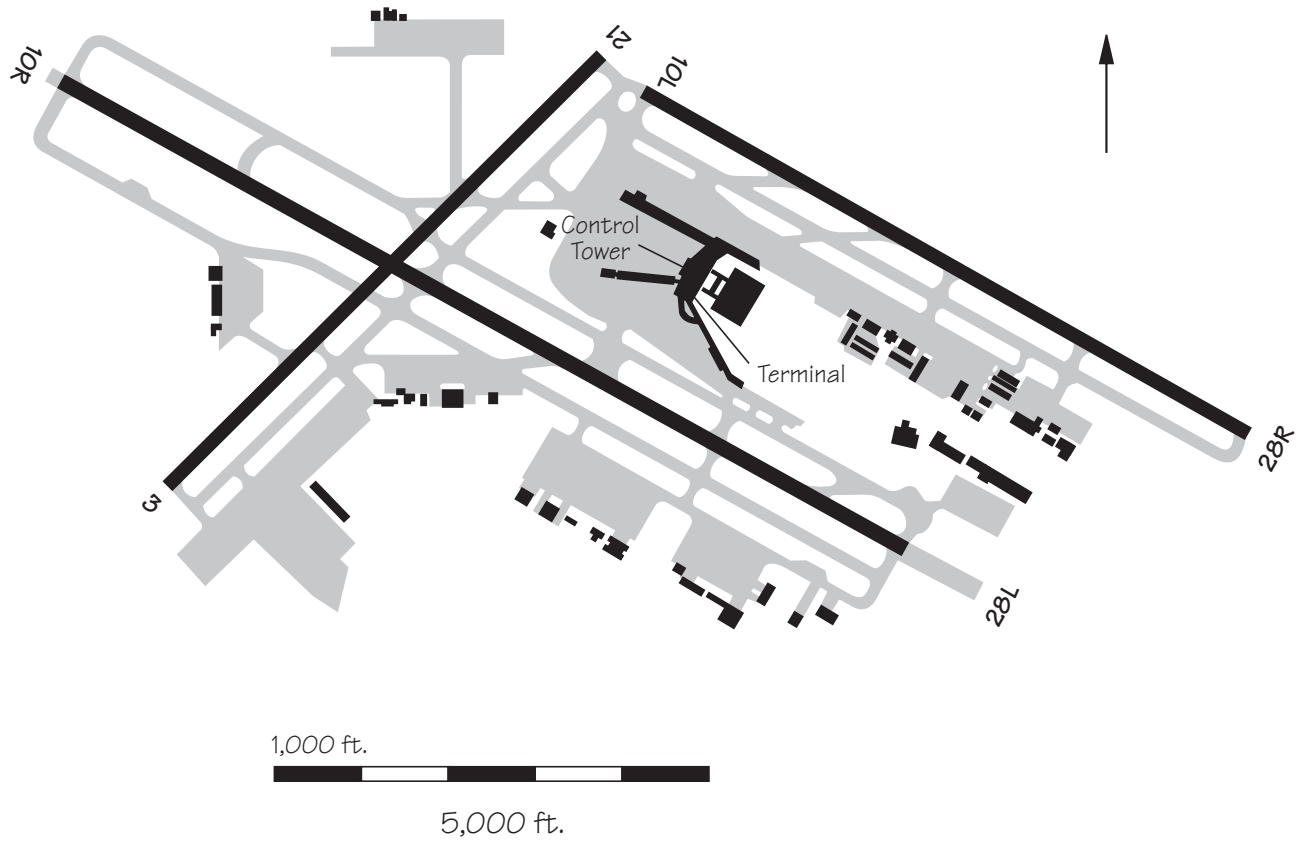


PBI — Palm Beach International Airport

Runway 9L/27R is planned to be extended 1,200 feet to the west and 811 feet to the east, for a total length of 10,000 feet. The total estimated project cost is $10 million. The EIS is planned to be completed in late 1998. Construction is planned to start in 1999 and be completed in 2000.

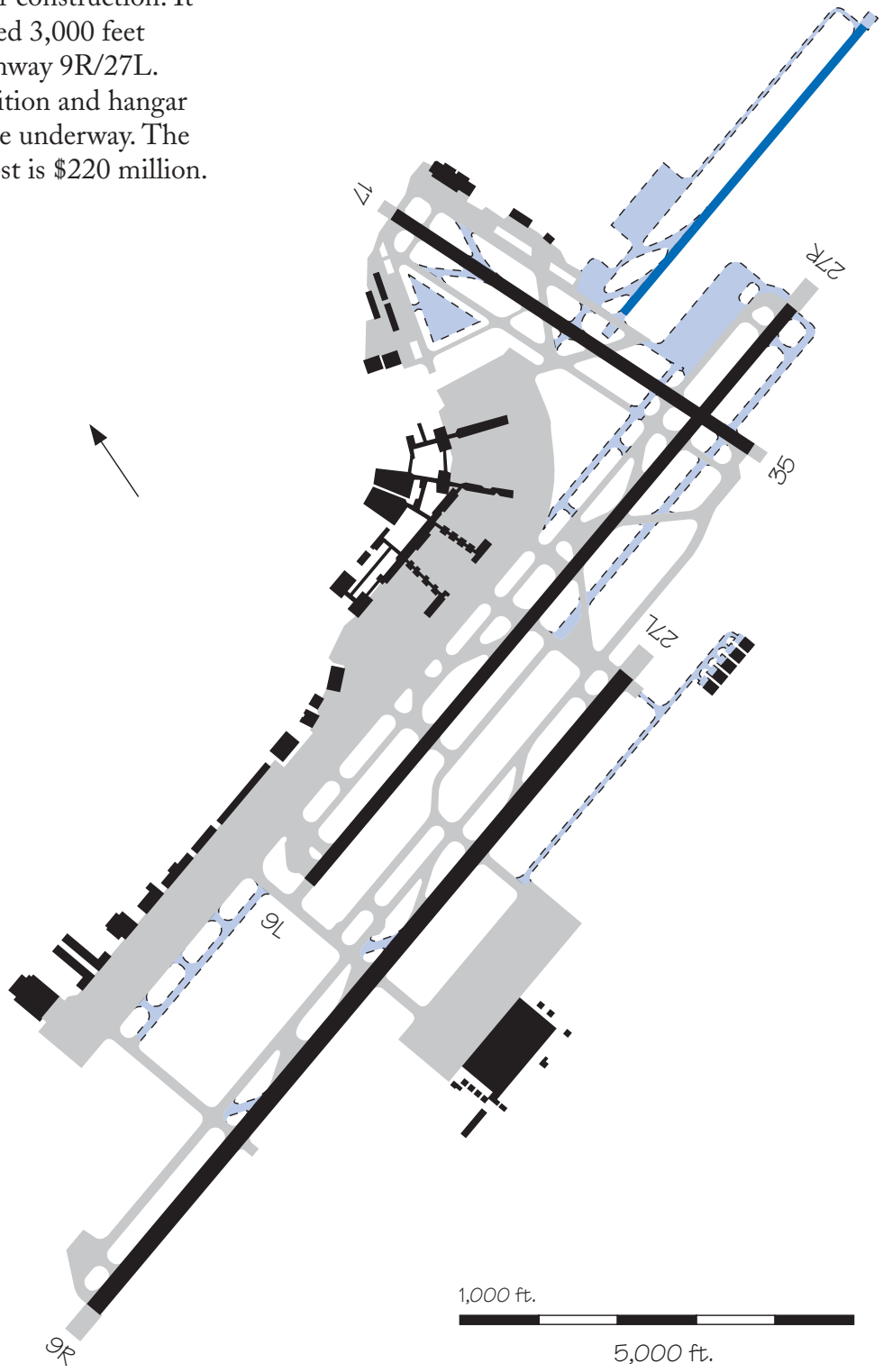


PDX — Portland International Airport



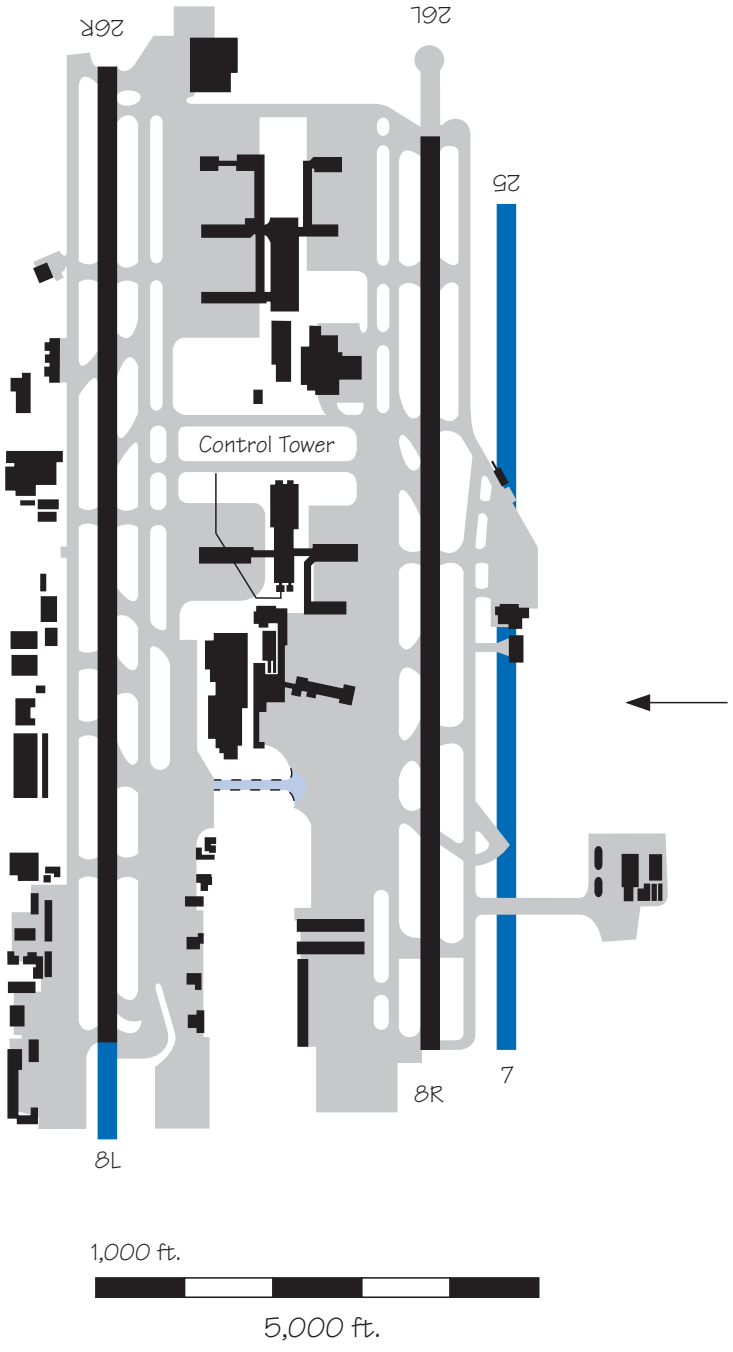
PHL — Philadelphia International Airport

A new 5,000-foot parallel commuter runway, Runway 8/26 is under construction. It will be located 3,000 feet north of Runway 9R/27L. Land acquisition and hangar relocation are underway. The estimated cost is $220 million.



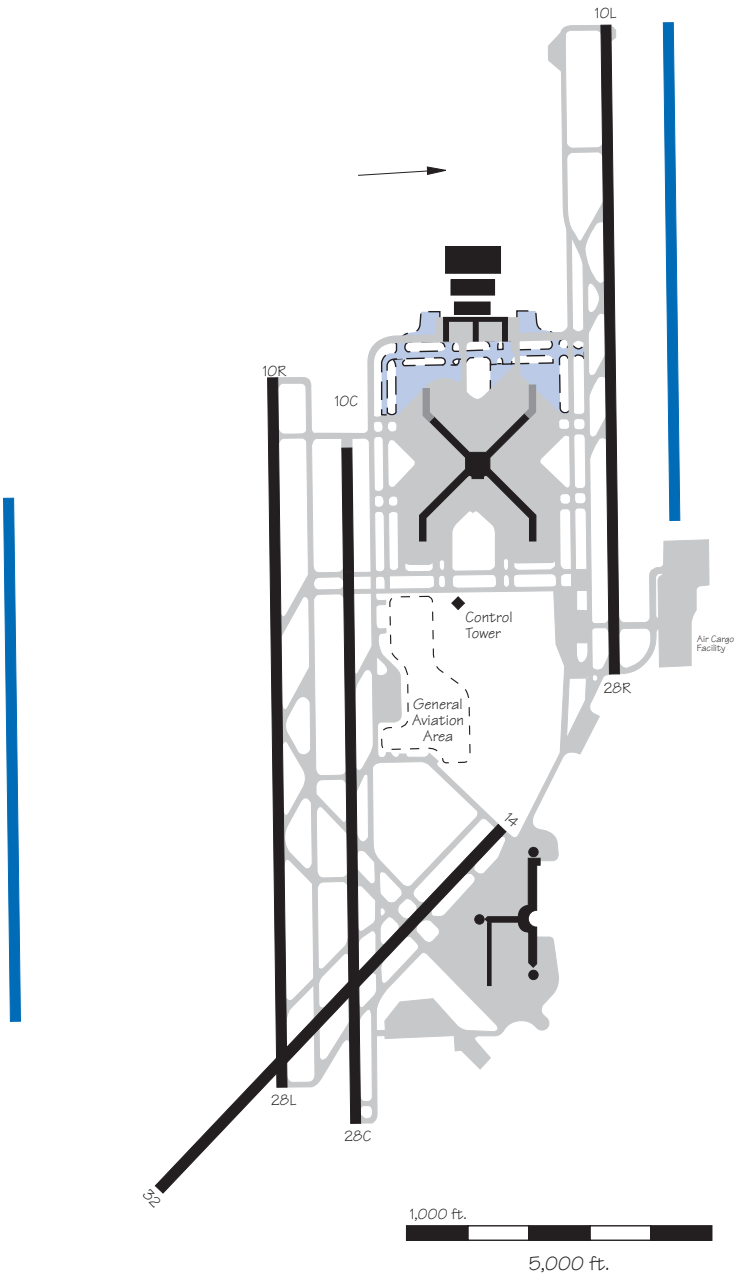
PHX — Phoenix Sky Harbor International Airport

A new third parallel runway, Runway 7/25, is currently under construction 800 feet south of Runway 8R/26L. The planned operational date is September 1999. Runway 7/25 is being constructed to a length of 7,800 feet. The airport layout plan proposes an ultimate length of 9,500 feet, but further construction is not scheduled at this time.

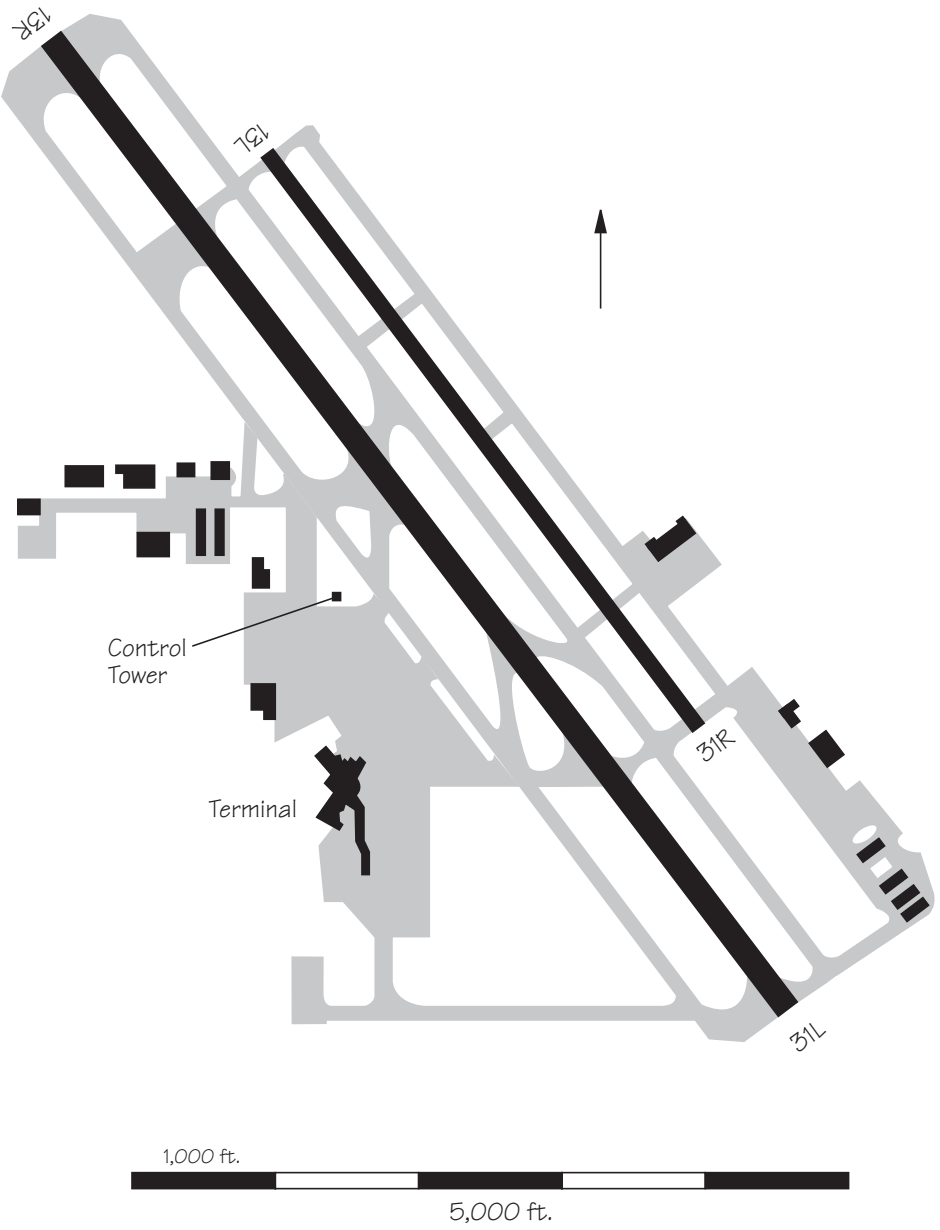


PIT — Greater Pittsburgh International Airport

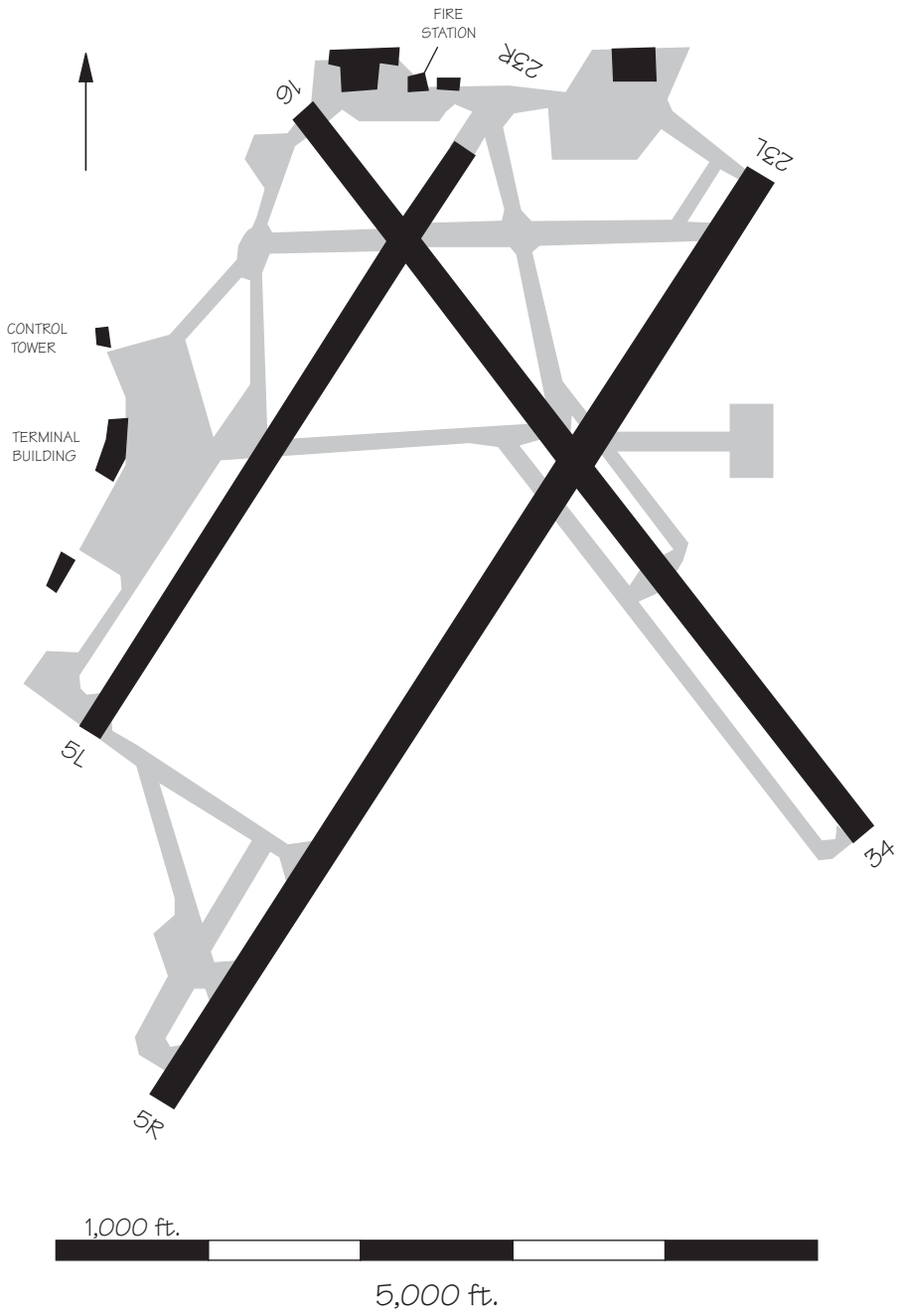
A recently completed Master Plan has recommended that at least two new runways will be needed within a twenty year planning period to accommodate projected Baseline (normal growth) forecast demands and achieve acceptable aircraft delay times and associated delay costs. Construction of the two east/west runways include a northern parallel and a southern parallel, with the latter as the preferred first-build runway. The southern parallel will be located approximately 4,300 feet south of existing Runway 10R/28L and should be operational by the time the airport reaches 495,000 annual aircraft operations. The northern parallel runway will be located 1,000 feet north of existing Runway 10L/28R and should be operational by the time the airport reaches 522,000 annual aircraft operations.



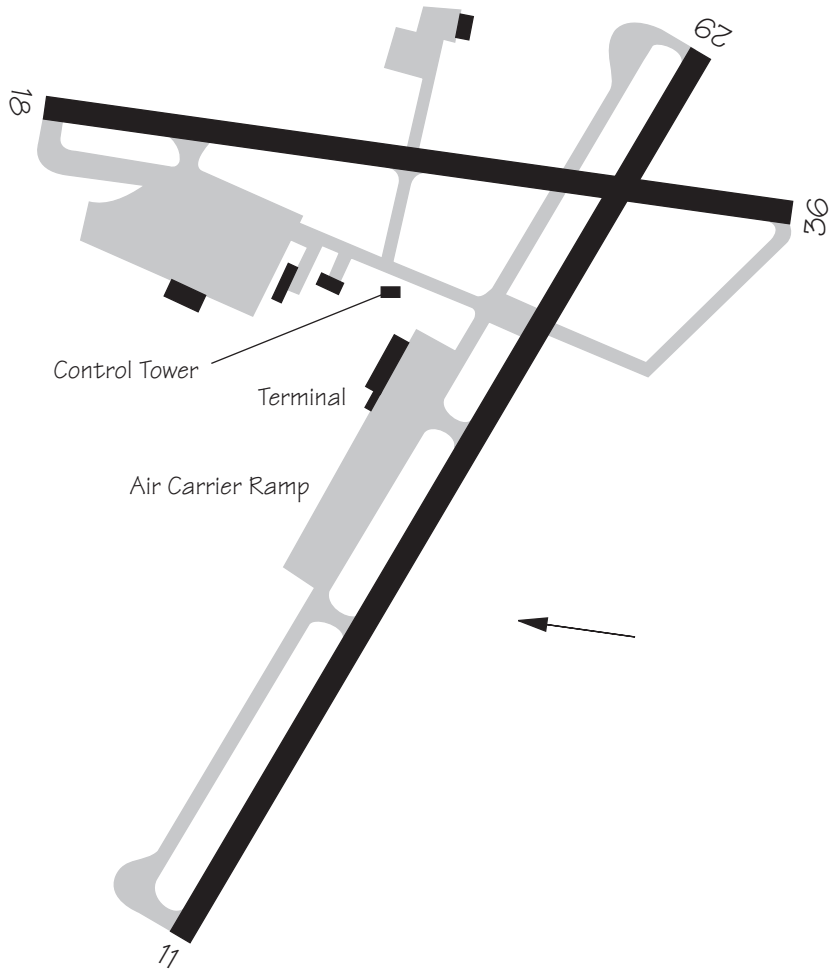
PSP — Palm Springs Regional Airport



PVD — Providence Theodore Francis Green State Airport



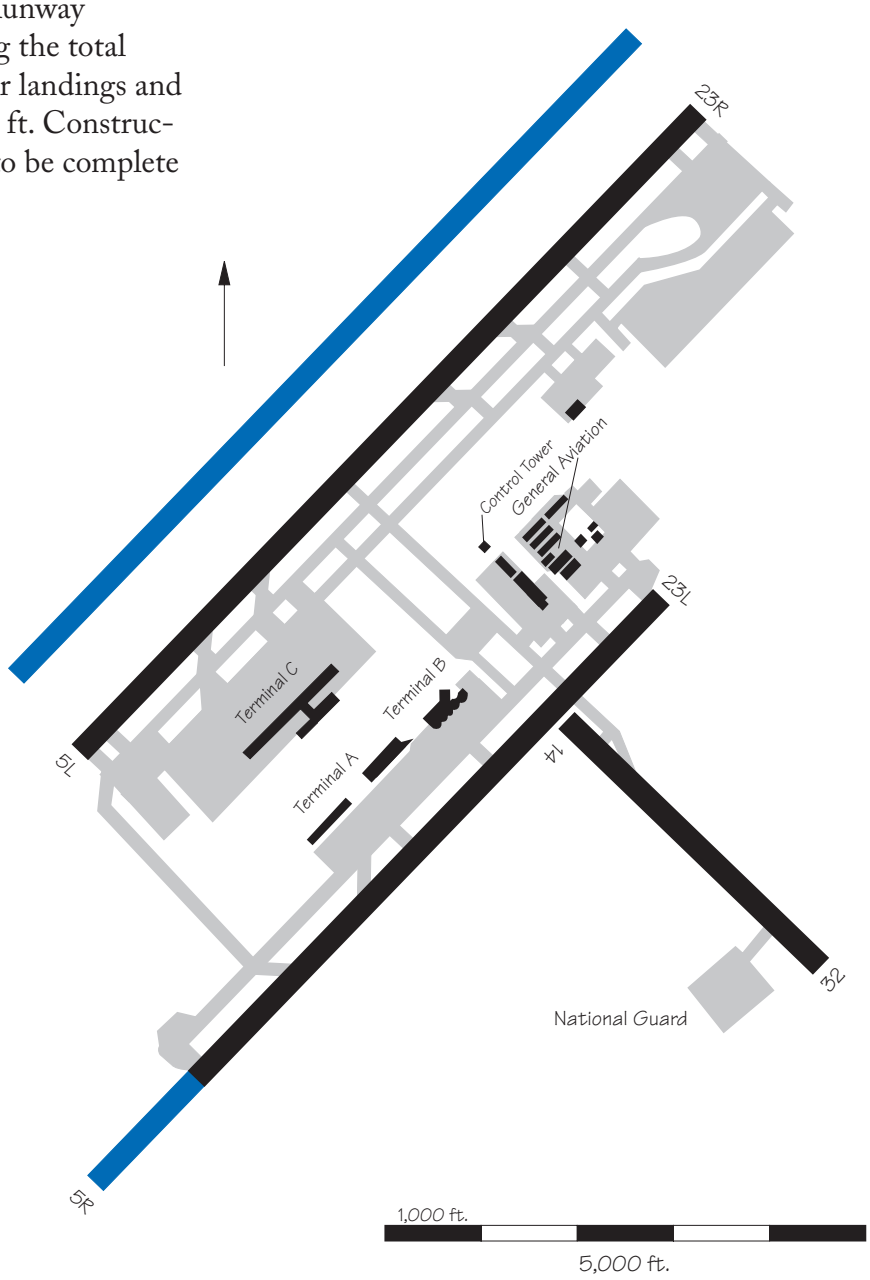
PWM — Portland International Jetport



RDU — Raleigh-Durham International Airport

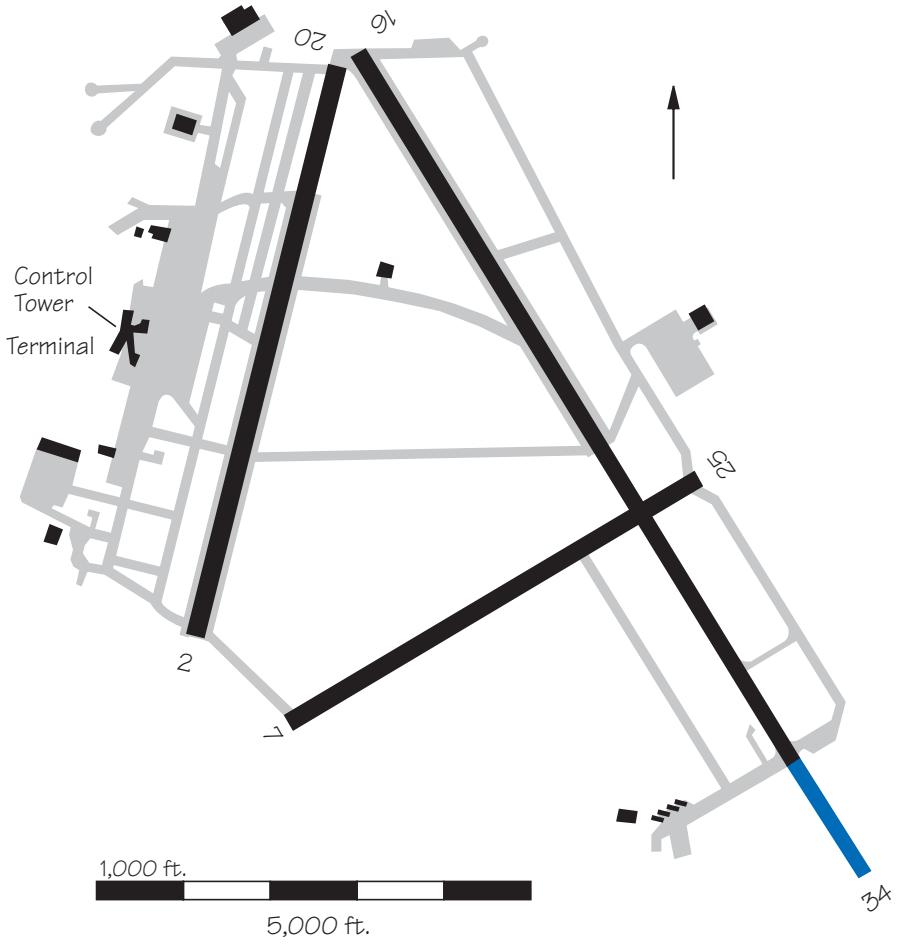
A new 9,500 ft. parallel runway located approximately 1,050 feet west of existing Runway 5L/23R is planned for the future.

Also planned is a 1,500 ft. runway extension to the south end of existing Runway 5R/23L, bringing the total useable length for landings and takeoffs to 9,000 ft. Construction is expected to be complete in 2005.

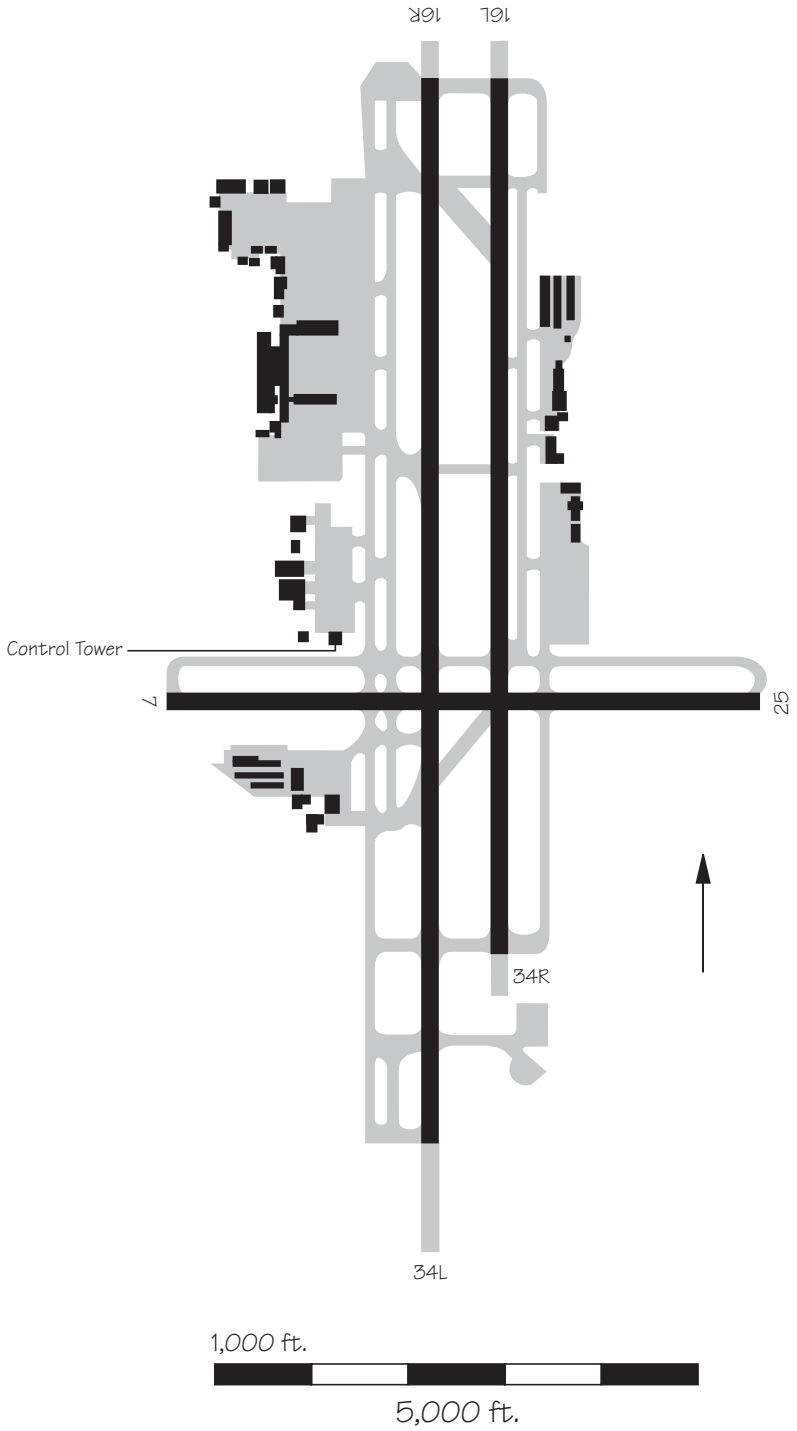


RIC — Richmond International Airport

An extension of Runway 16/34 is under environmental review.

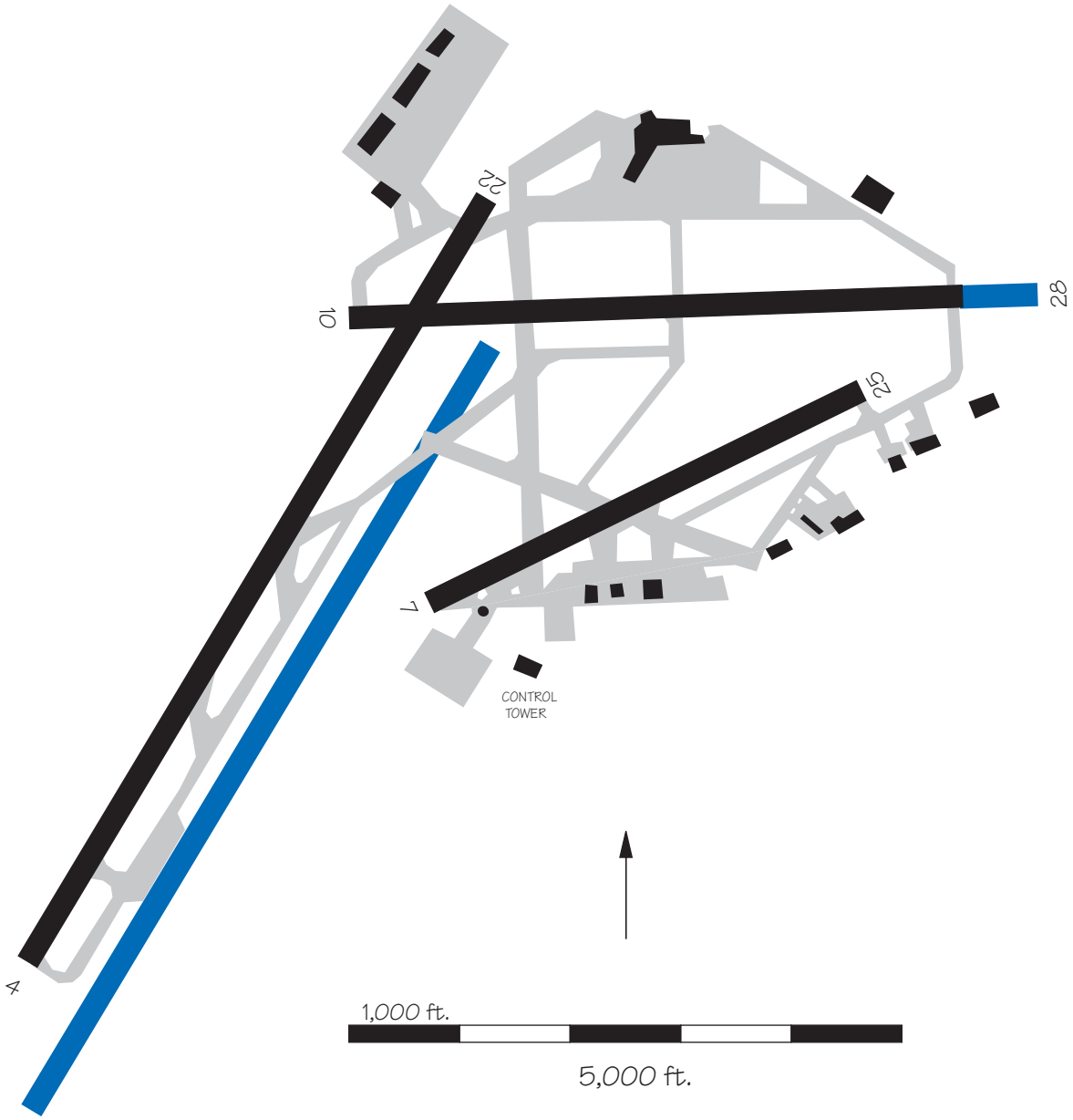


RNO — Reno Tahoe International Airport



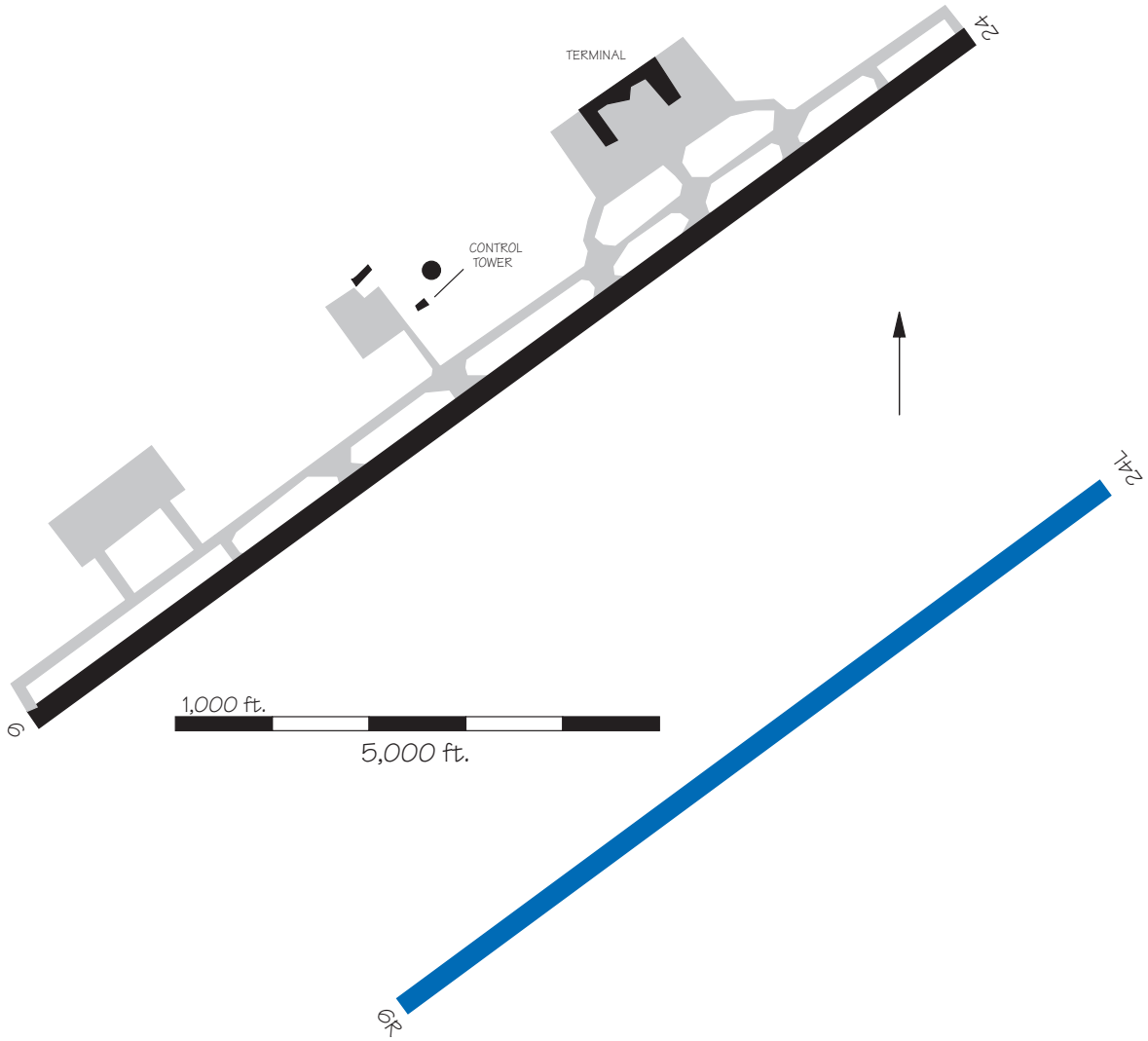
ROC — Greater Rochester International Airport

Construction of an extension to Runway 10/28 is being considered. The estimated cost of construction is $3.2 million. An extension to Runway 4/22 is also being considered, and is expected to cost $4 million. Construction of a new parallel Runway 4R/22L 700 feet southeast of Runway 4/22 is estimated to cost $10 million. These runway improvements are anticipated post 2000. Environmental assessments have not yet been started for these projects.

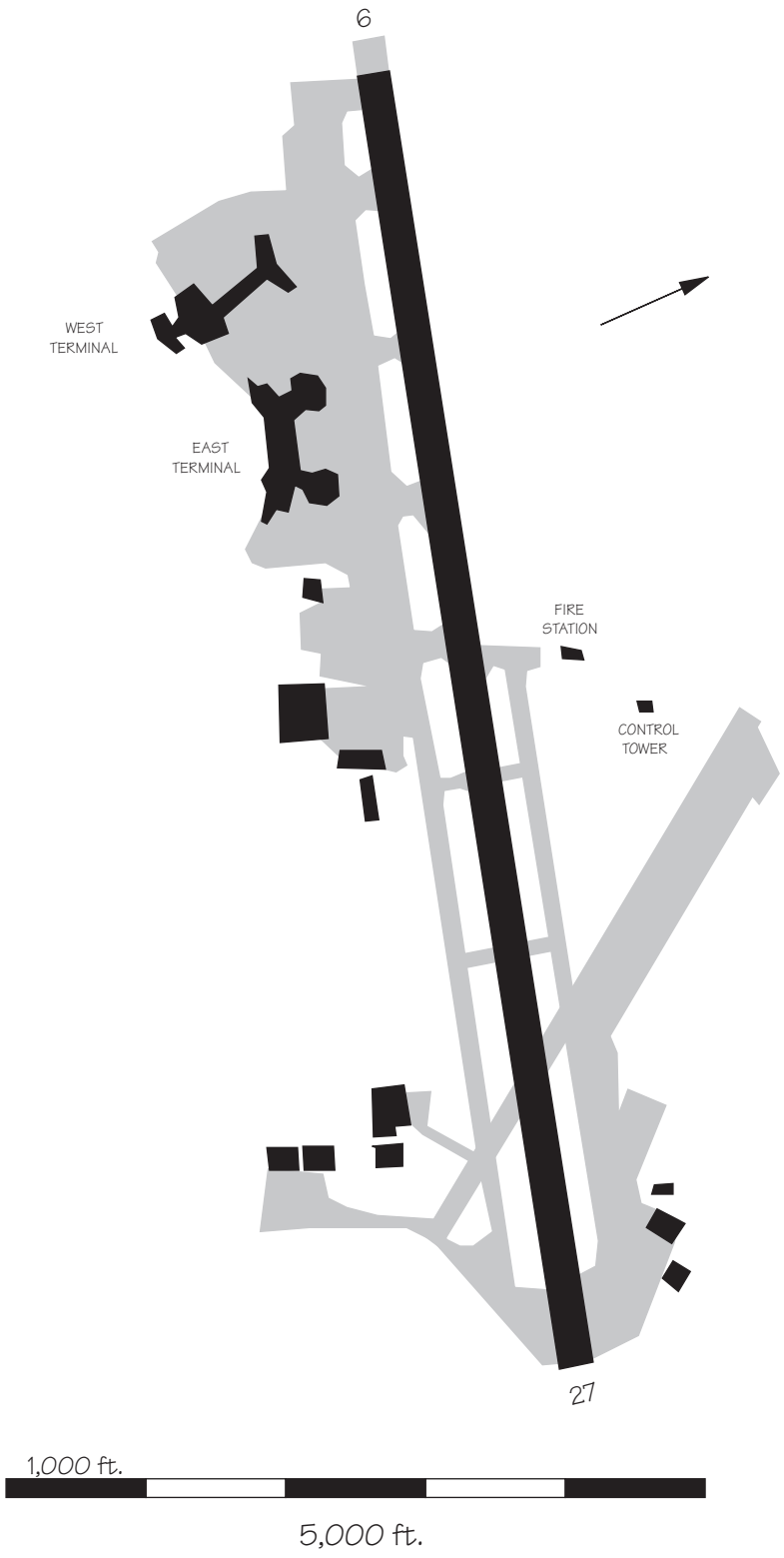


RSW — Fort Myers Southwest Florida Regional Airport

Planning has begun for a new 9,100 foot parallel runway, Runway 6R/24L, 4,300 feet or more southeast of Runway 6/24. Construction is expected to begin in 2000. The new runway should be operational by 2002. The estimated cost of the project is $80 million. This new runway will support independent parallel operations.

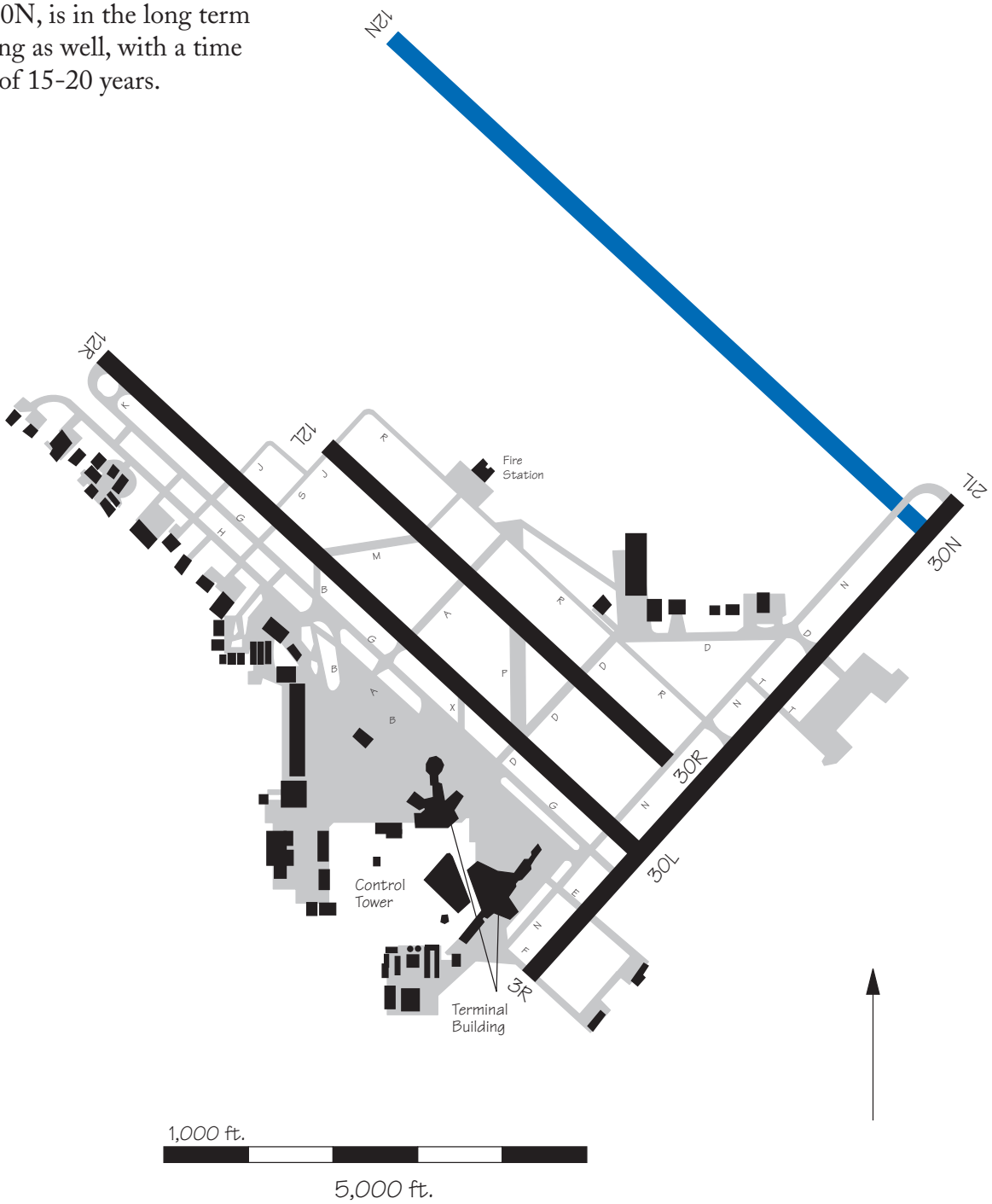


SAN — San Diego International Lindberg Field



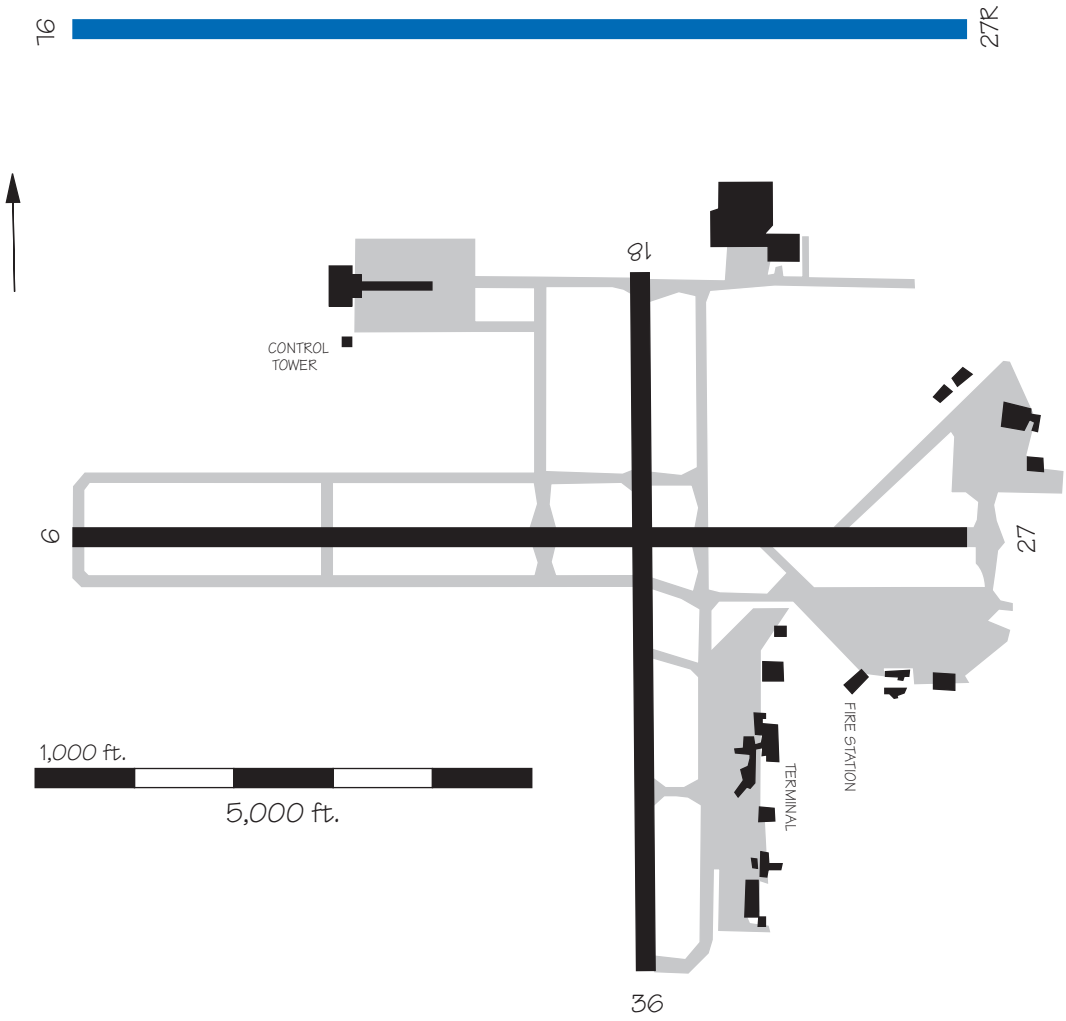
SAT — San Antonio International Airport

Reconstruction and extension of Runway 12L/30R for air carrier operations is being planned for beyond 2000, as demand warrants. A third parallel runway, Runway 12N/30N, is in the long term planning as well, with a time frame of 15-20 years.



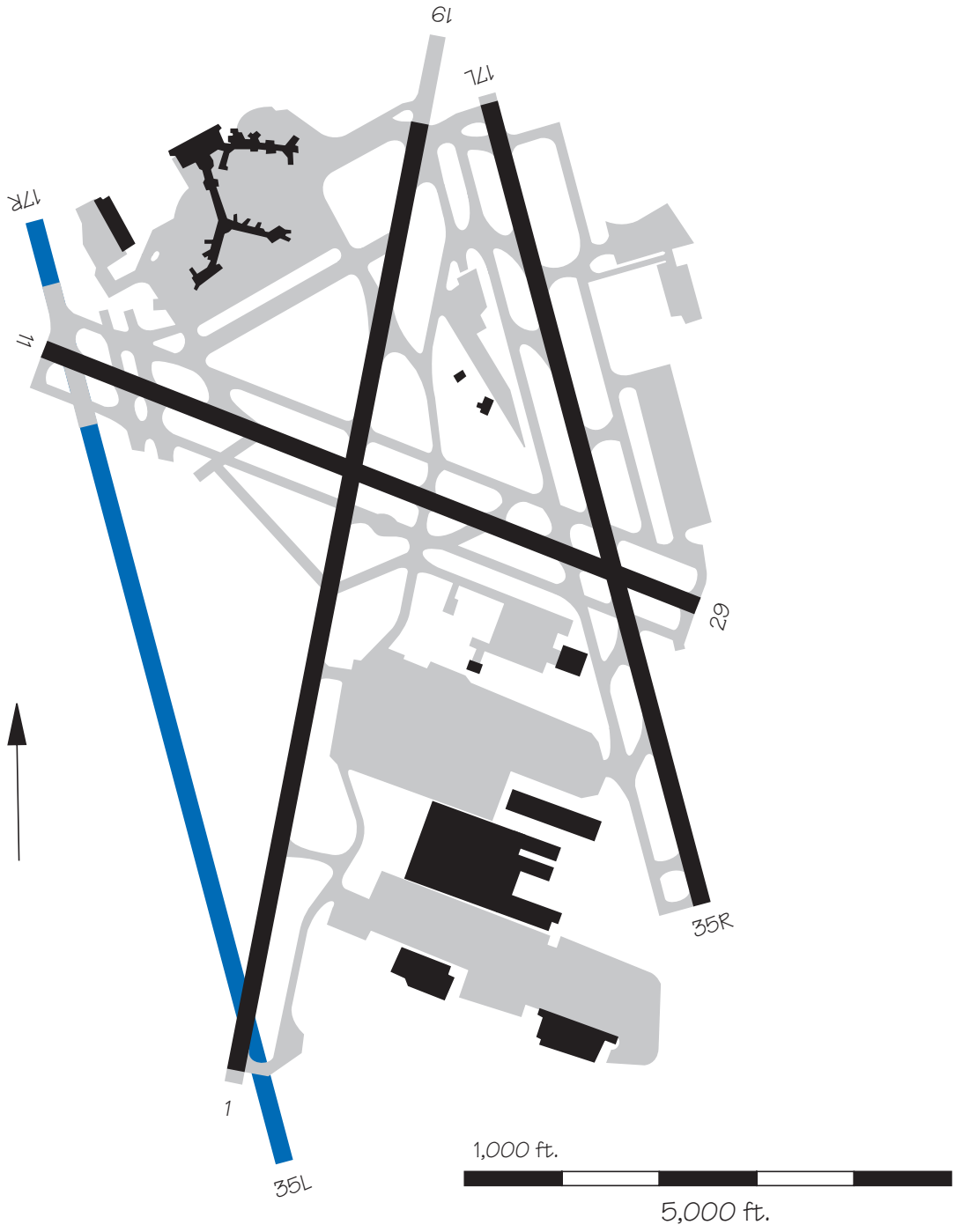
SAV — Savannah International Airport

A new 9,000-foot parallel runway, Runway 9L/27R, approximately 5,000 feet north of Runway 9/27, is expected to be constructed in 2020, with an estimated cost of $20 million.



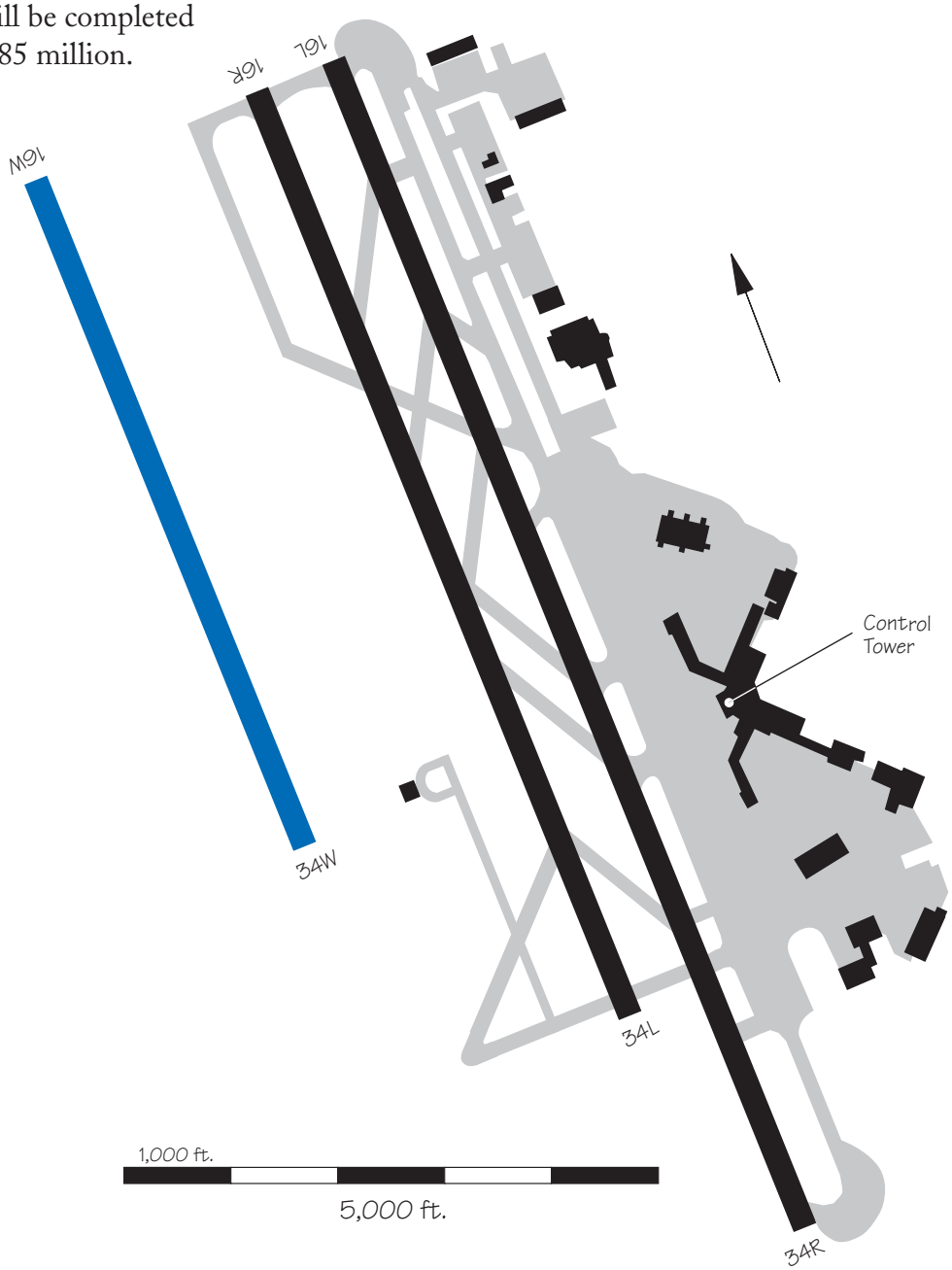
SDF — Louisville International Airport

Construction is underway for two new parallel runways, 4,950 feet apart. They will be numbered Runways 17R/35L and 17L/35R and will be 10,000 and 8,580 feet long, respectively. They will replace Runway 1/19, which will be closed. The estimated cost of construction is $59 million for Runway 17R/35L. Runway 17L/35R is complete, and Runway 17R/35L is expected to be completed in 1997. The two runways will permit independent parallel IFR operations.

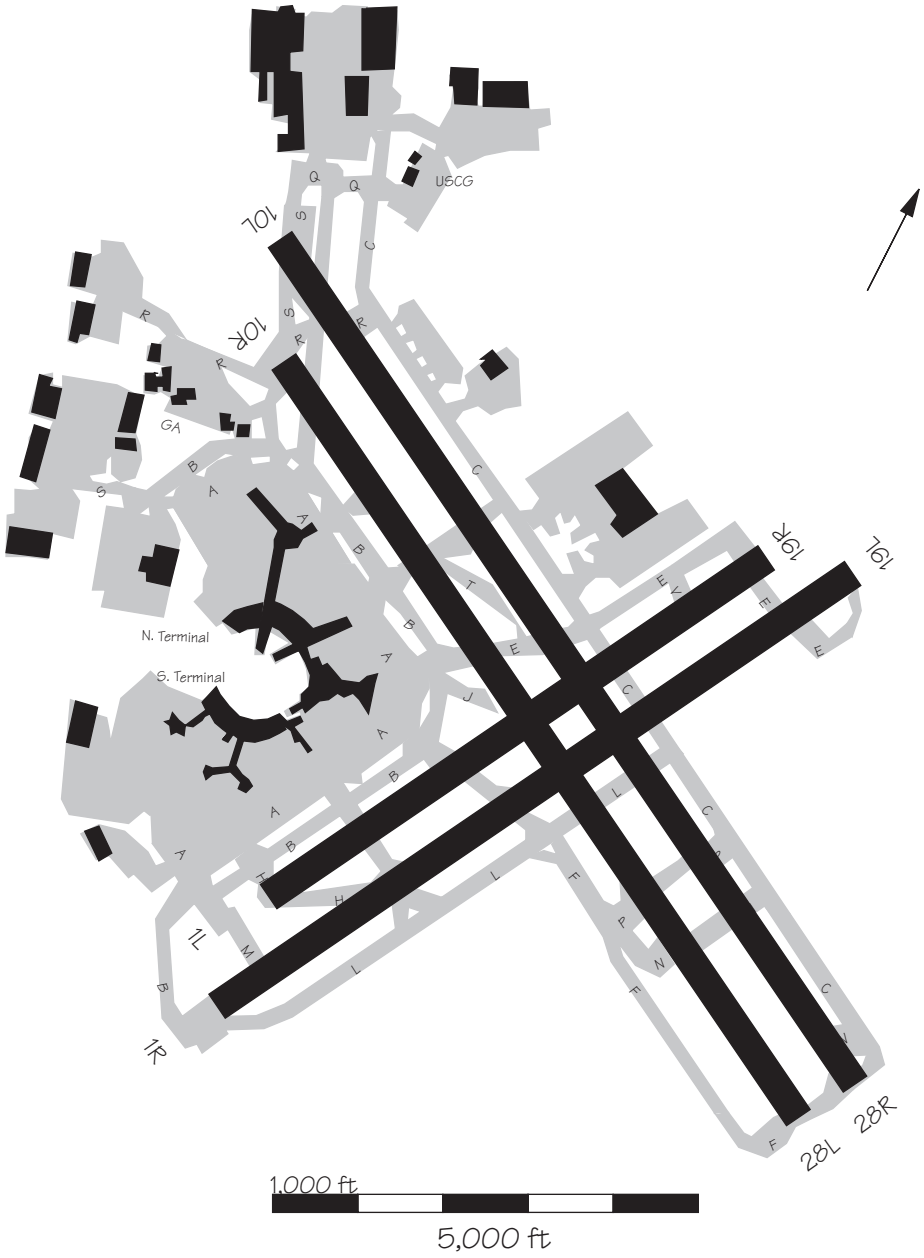


SEA — Seattle-Tacoma International Airport

Airport improvements include a new Runway 16W/34W, 8,500 feet in length, which will be located 2,500 feet from Runway 16L/34R. Construction is scheduled to begin in 1997. The runway will be completed by 2004 for $585 million.

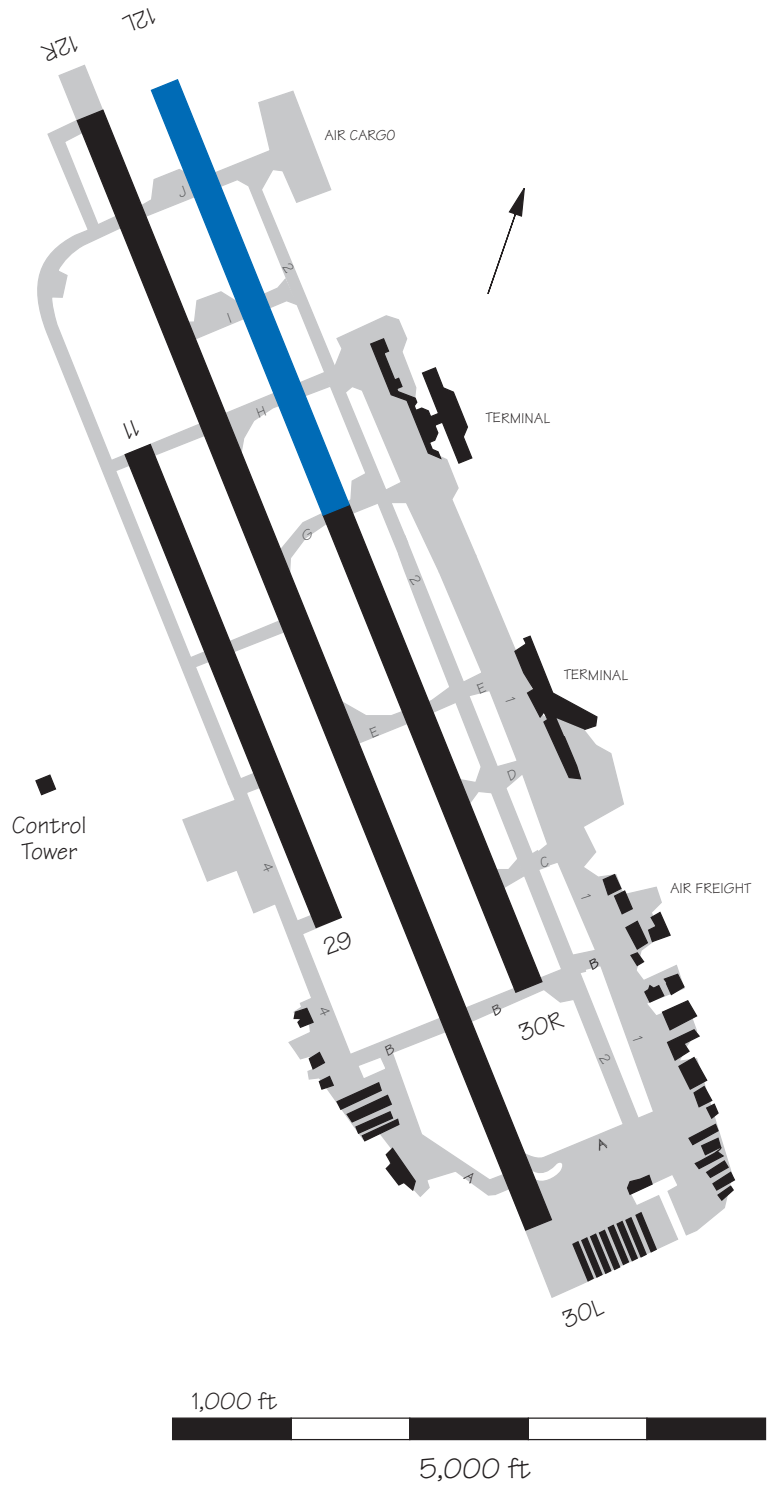


SFO — San Francisco International Airport



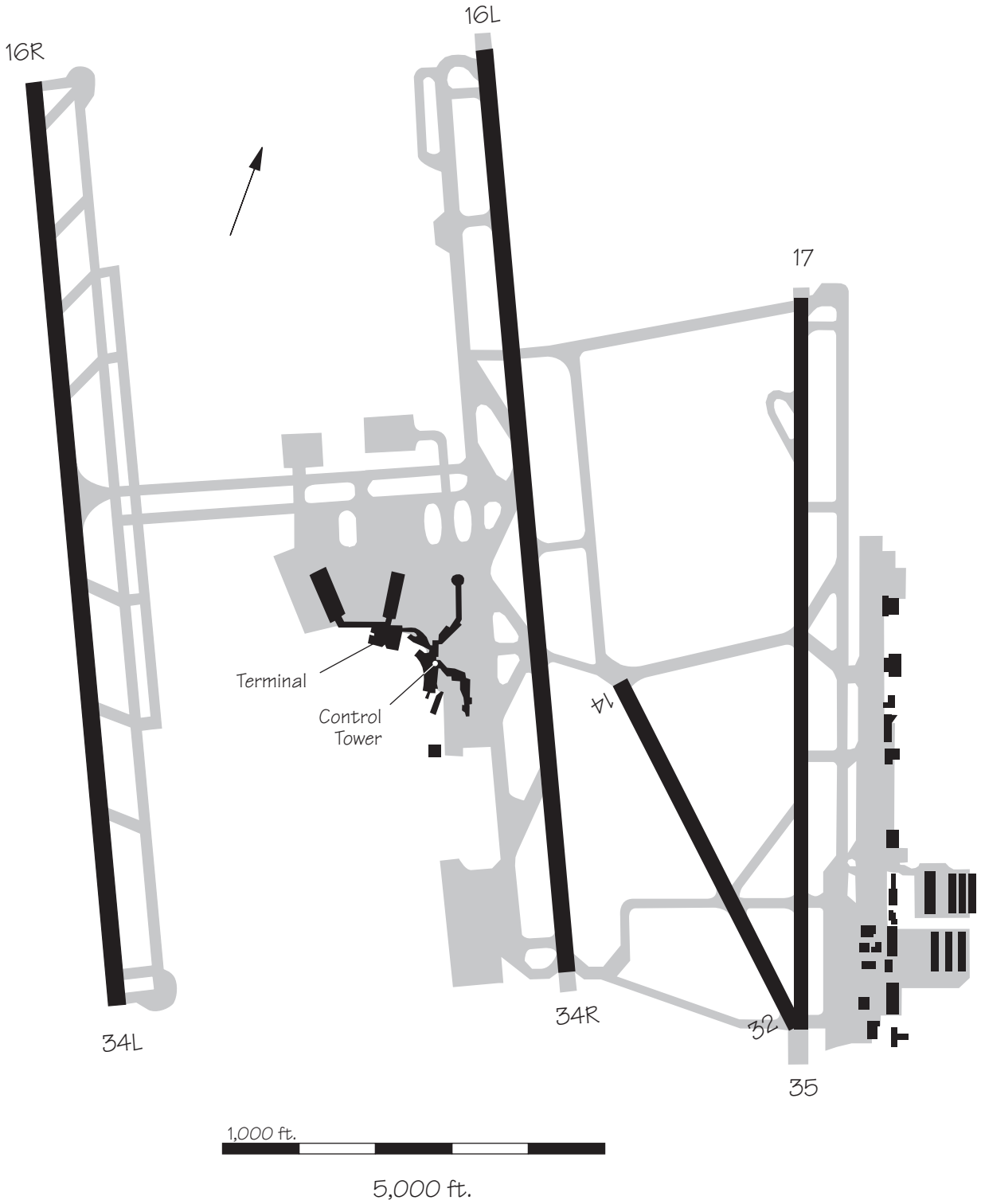
SJC — San Jose International Airport

Environmental documentation is currently being prepared in support of the extension of Runway 12L/30R. If this option is determined to be environmentally acceptable and is adopted by the sponsor, construction will begin in 1997.

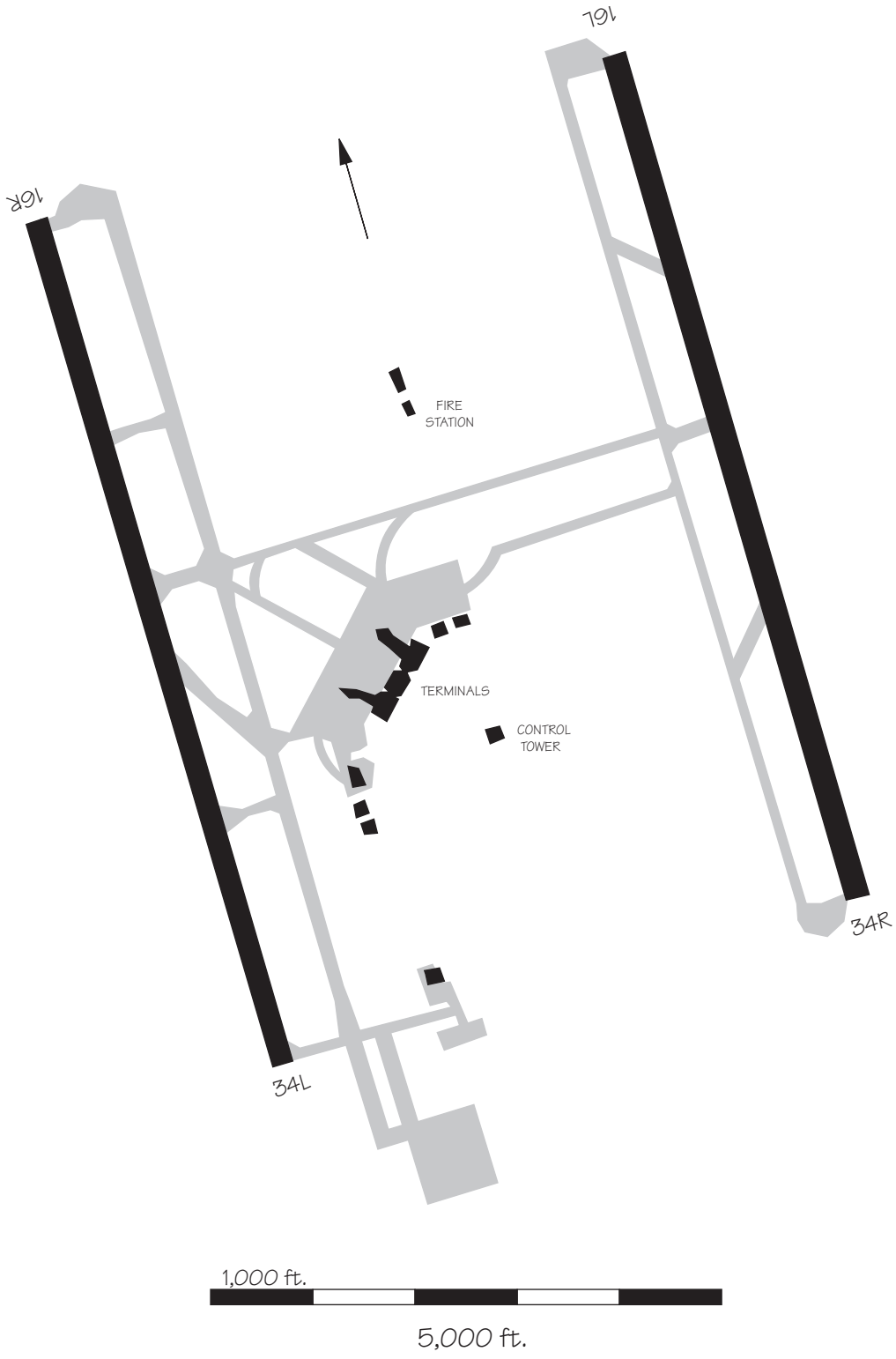


SJU — San Juan Luis Muñoz Marín International Airport

SLC — Salt Lake City International Airport

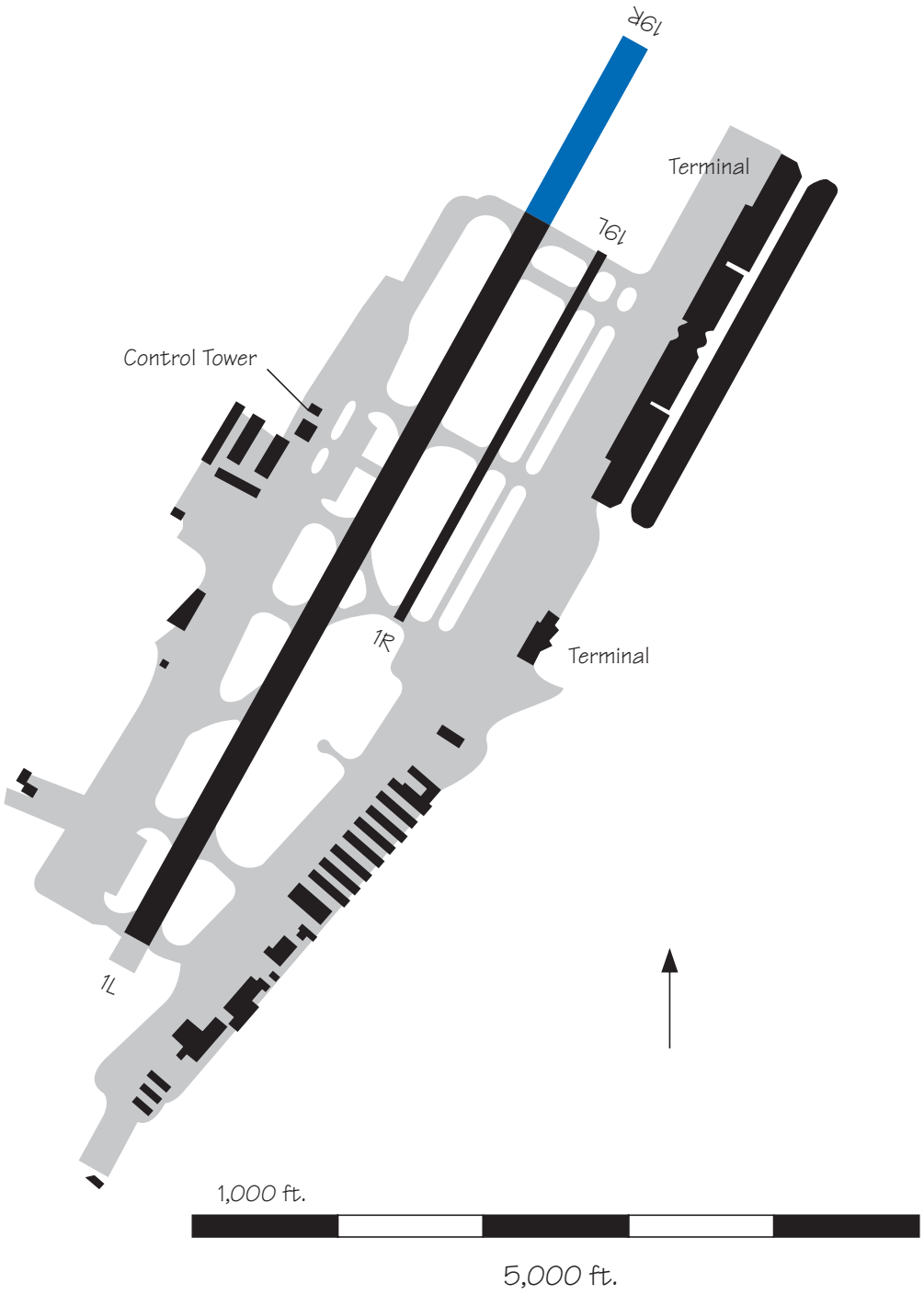


SMF — Sacramento International Airport



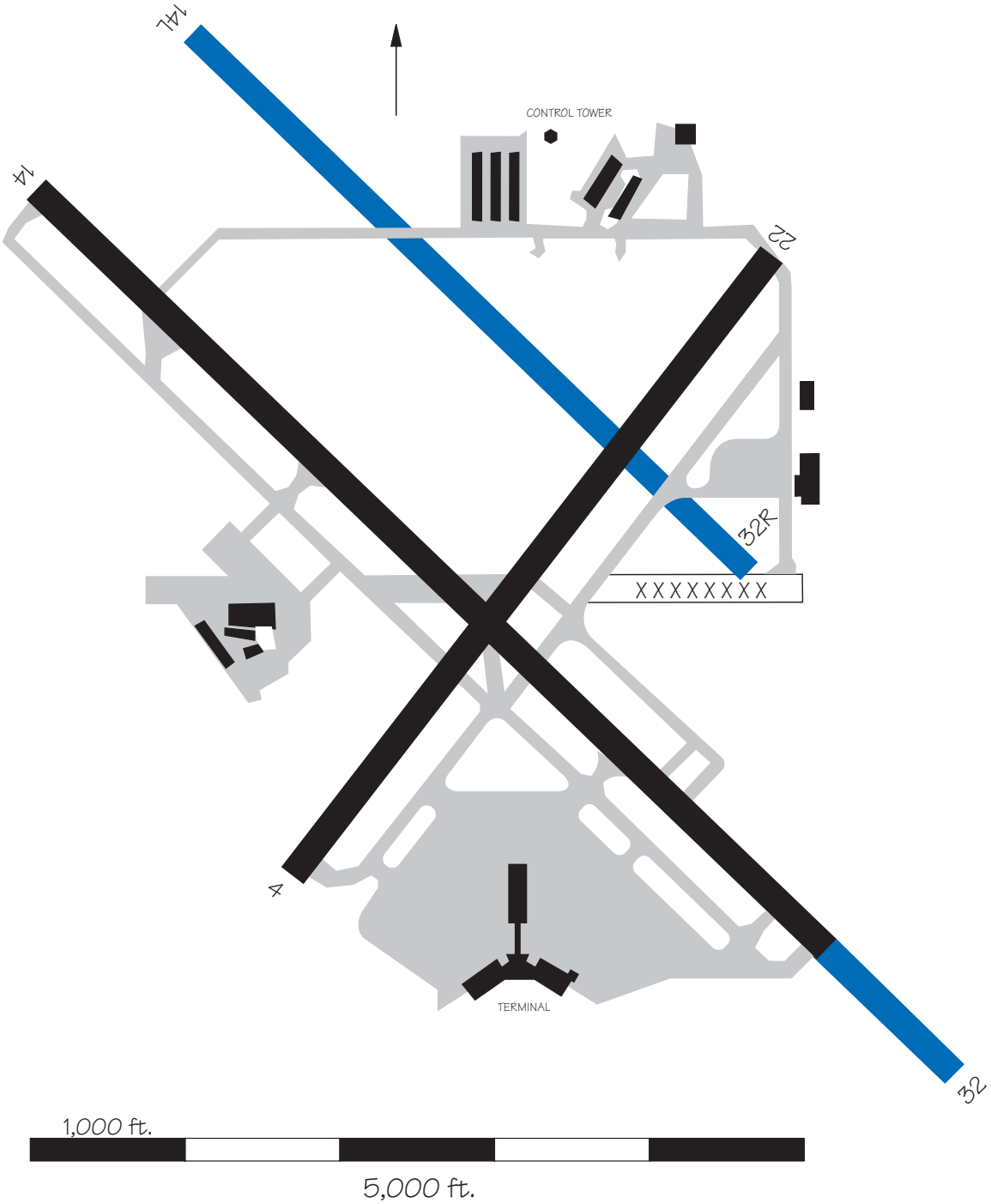
SNA — Santa Ana/John Wayne Airport - Orange County

An extension of Runway 1L/19R is under consideration.



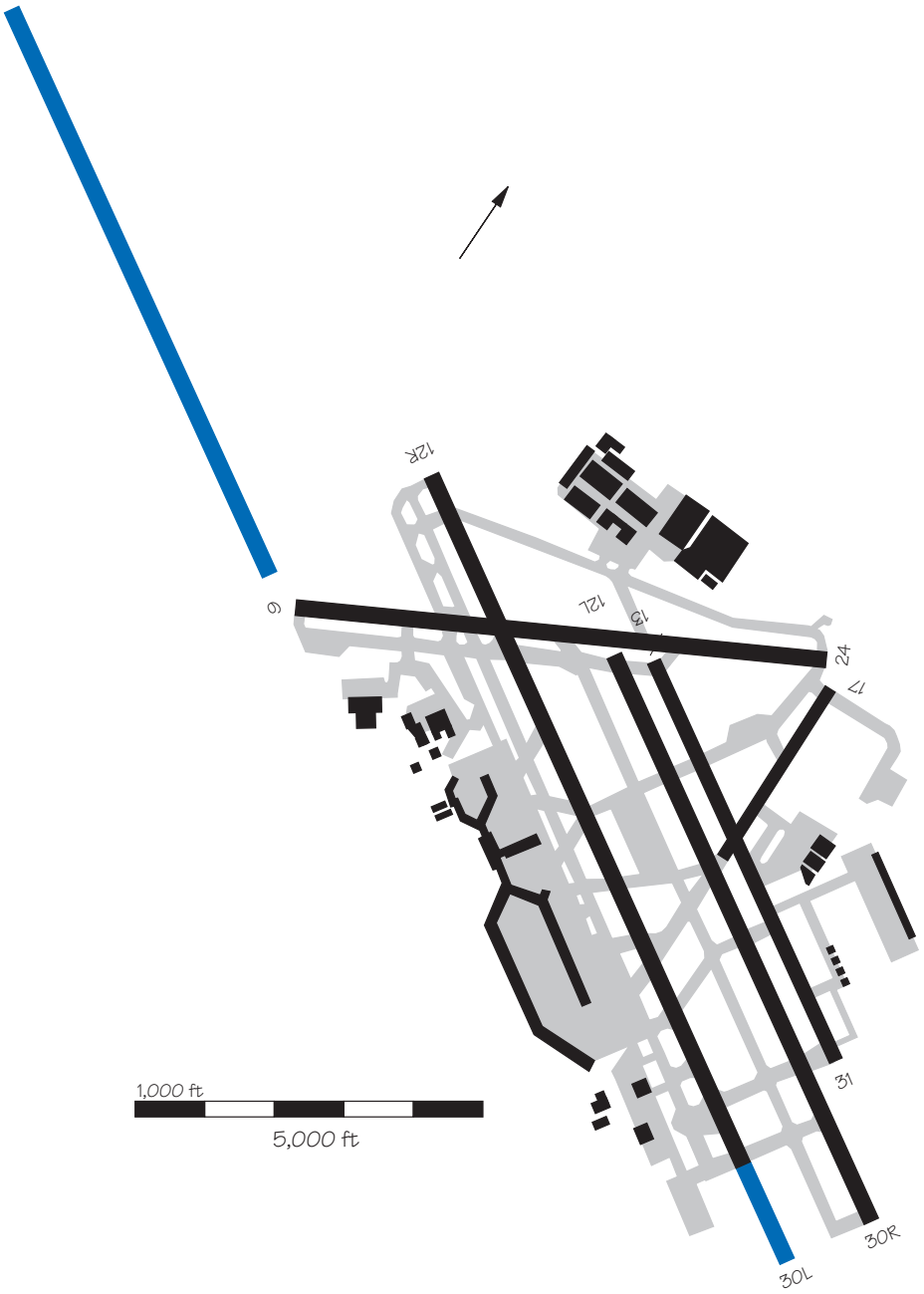
SRQ — Sarasota Bradenton Airport

A new parallel Runway 14L/32R 1,230 feet northwest of Runway 14/32 is being planned at an estimated cost of $10 million. It is expected to be operational beyond 2002. In addition, an extension of the existing Runway 14/32 is planned at a cost of $5.1 million. It is expected to be operational beyond 2002.



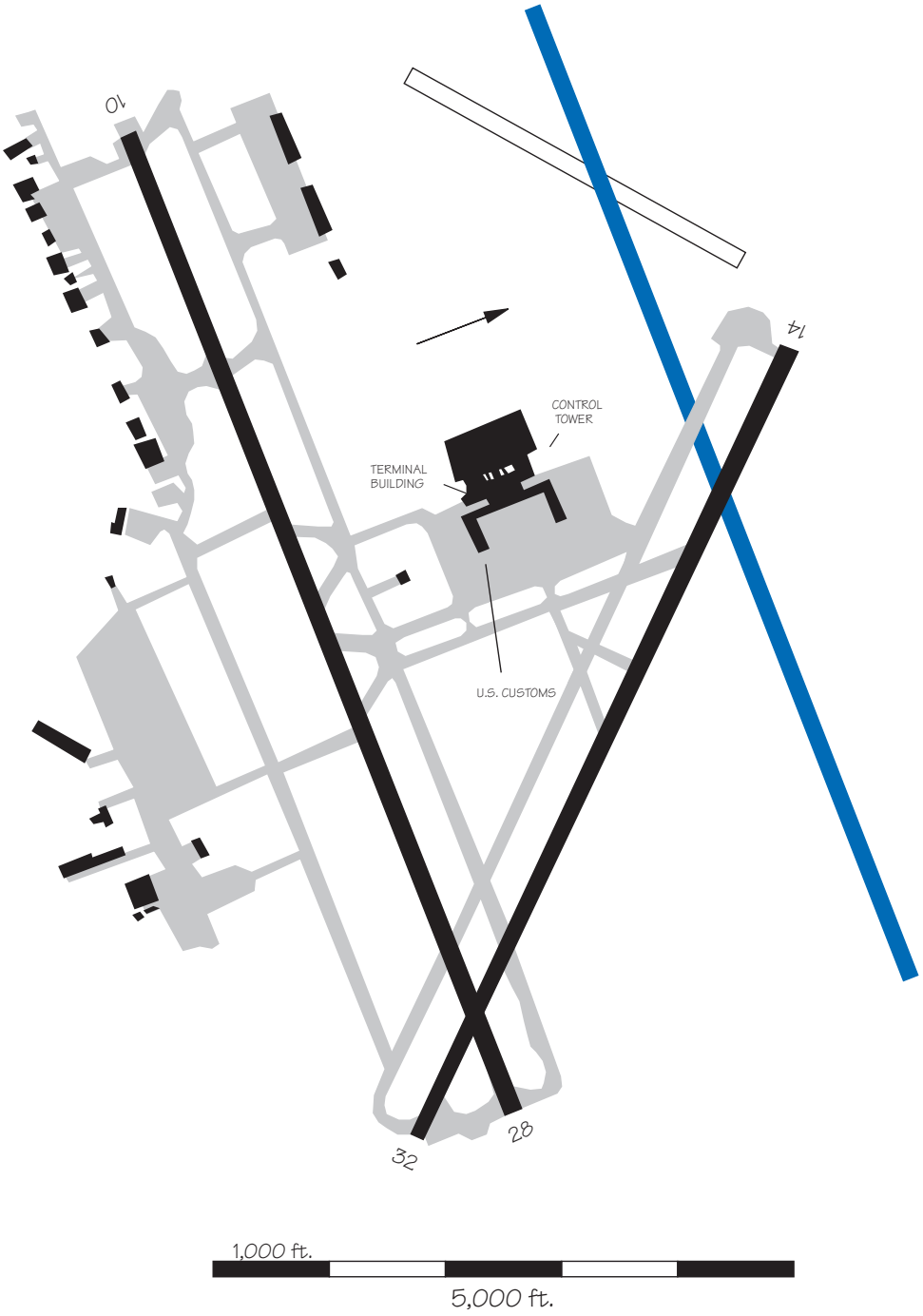
STL — Lambert St. Louis International Airport

A new parallel Runway 12R/30L has been recommended in the St. Louis Airport Master Plan Update. The new plan calls for a parallel runway supporting independent IFR operations. An EIS is also underway. The Master Plan Update and the EIS are anticipated to be completed in late 1997, and construction could begin in 1998.



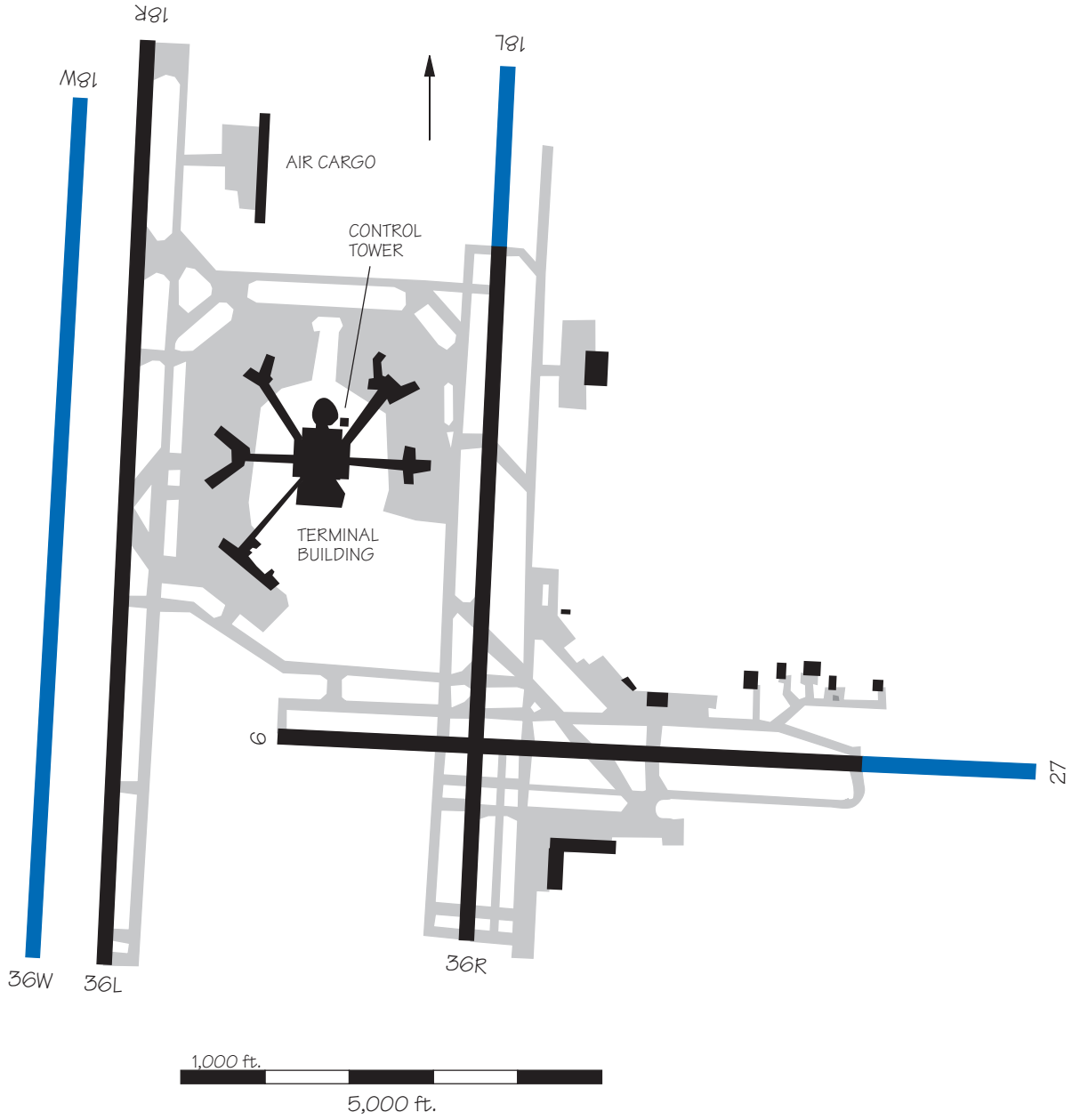
SYR — Syracuse Hancock International Airport

A new parallel Runway 10L/28R, 9,000 feet long and separated from the existing Runway 10/28 by 3,400 feet is being considered. It would provide independent parallel IFR operations, doubling hourly IFR arrival capacity. The expected operational date is 2000. The cost of construction is estimated to be $55 million for the first phase of the new runway, which would be 7,500 feet long, including a parallel taxiway and connections to the ramp. The final length of the runway will be 9,000 feet.



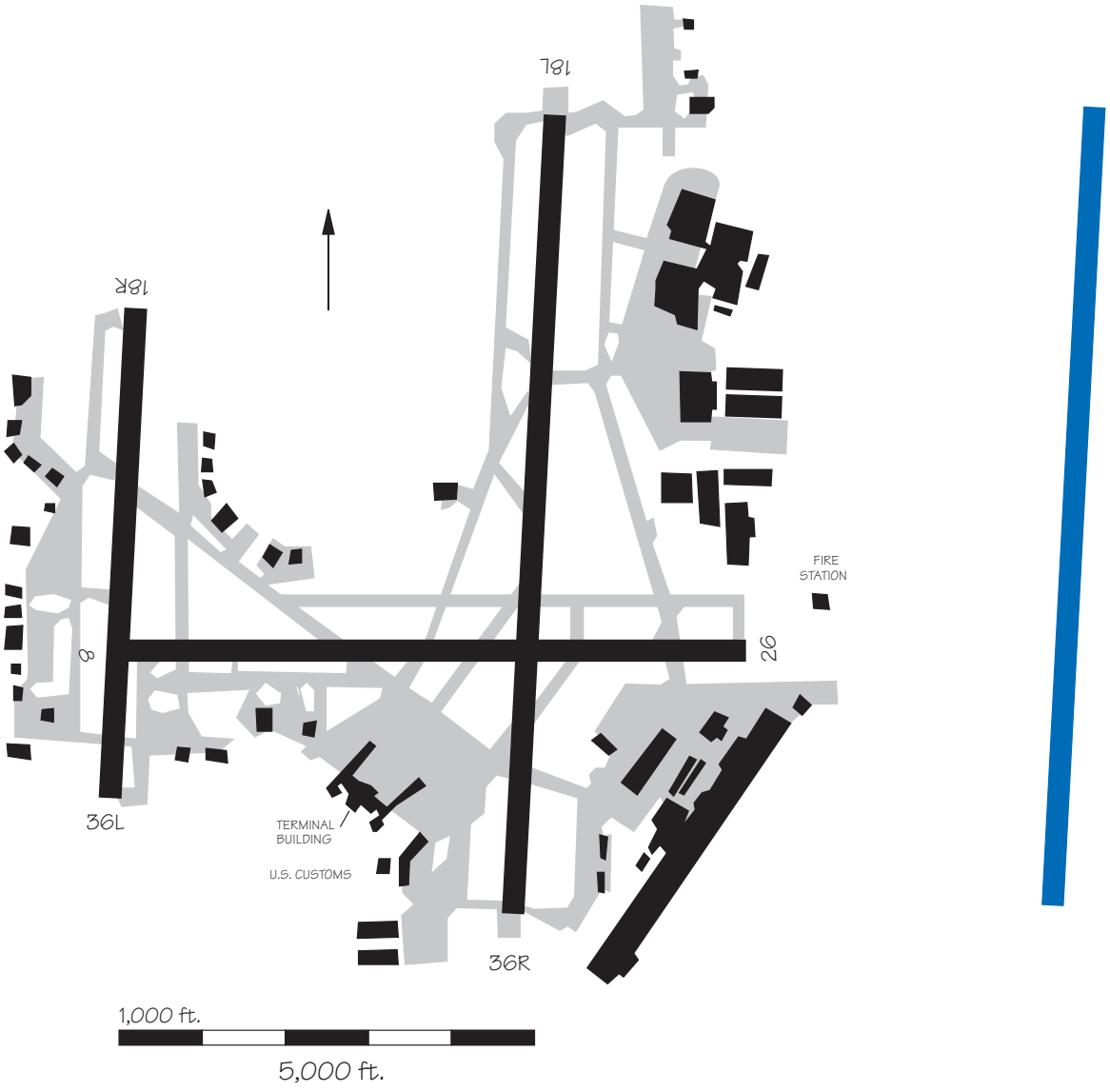
TPA — Tampa International Airport

A third parallel Runway 18W/36W 9,650 feet long and 700 feet west of Runway 18R/36L is being considered. An extension of Runway 18L is also being considered for the time frame beyond 2005, and reconstruction and extension of Runway 27, for the time frame beyond 2010.



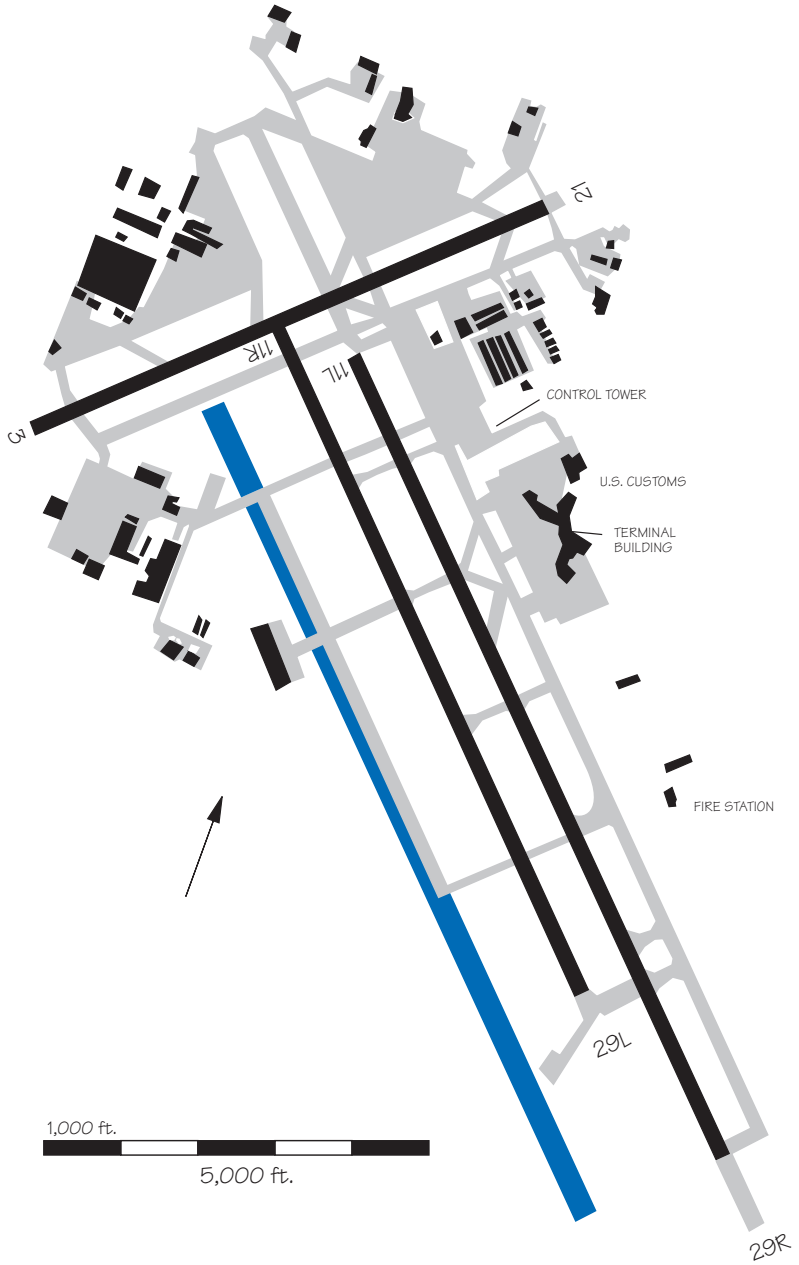
TUL — Tulsa International Airport

A new parallel runway, Runway 18L/36R, located 6,400 feet east of the present 18L/36R and 9,600 feet long, is being considered. The new runway would permit IFR triple independent approaches, if approved, to Runways 18L, 18C, and 18R.



TUS — Tucson International Airport

An additional parallel air carrier runway, Runway 11R/29L, has been proposed. Upon completion of the new runway, the current Runway 11R/29L, a general aviation runway, will revert to its original taxiway status. It is not anticipated that the sponsor will proceed before 1998. Current plans call for construction to start in 2003 to be operational in 2005. The cost of construction is estimated to be $30 million.



TYS — Knoxville McGhee-Tyson Airport